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ABSTRACT

Project Information Packages (PIPs), kits distributed by the U.S. Office of Education to facilitate the replication of programs, were developed for 6 exemplary supplemental educational programs and tried out in 17 different schools. The PIP field tests determined whether the PIP model in general, and each of the six original PIPs in particular, constituted a feasible method of spreading successful educational projects beyond the sites in which they were developed. If people in tryout sites were found able, with little outside assistance, to reproduce the original program in their own schools and to demonstrate improvements in student test scores comparable to those reported by the original projects, the success of PIPs would be established. As a result of this evaluation, the author recommends (1) continuation of 16 already prepared PIPs, with additional assistance from skilled facilitators; (2) continued support and evaluation of packaging attempts for other successful projects; and (3) determination of the suitability of the PIP model for other types of projects before such projects are packaged. (Author/GDC)

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EVALUATION OF THE FIELD TEST OF PROJECT INFORMATION PACKAGES:

Volume I Summary Report

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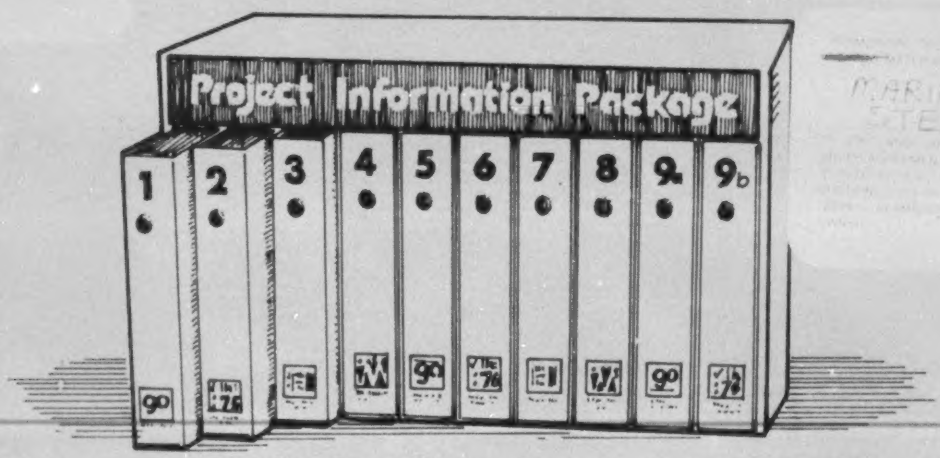

- Project Catch-Up
- Project Conquest
- High Intensity Tutoring
- Intensive Reading Instructional Teams
- Programed Tutorial Reading
- Project R-3

Prepared for:
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Final Report *April 1977*

EVALUATION OF THE FIELD TEST OF PROJECT INFORMATION PACKAGES

Volume I: Summary Report

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PREFACE

In its continuing search for successful means by which to disseminate exemplary educational programs, the U.S. Office of Education (USOE), under Title III, Section 306, awarded grants to 17 local educational agencies to try out Project Information Packages (PIPs) during the 1974-75 and 1975-76 school years. The six PIPs used during the initial two-year tryout are the subject of the evaluation described in this report; these original PIPs are no longer in use and should not be confused with the revised and new PIPs created since 1974.

The first six PIPs were based on five successful Title I projects and one other federally funded exemplary project. They were "how to" kits addressed to local education agencies to guide them in installing the projects. From the two-year field test of these PIPs, the Office of Planning, Budgeting and Evaluation in USOE wanted to assess the feasibility of packaging as a way of getting successful projects replicated at new sites with a minimum of expensive technical assistance.

SRI was the prime contractor for the evaluation of PIPs; RMC Research Corporation, developer of the PIPs, was the subcontractor. The first year of the evaluation focused on the success of the packages as a mechanism for getting the projects, including their instructional programs, installed in the new sites. On the basis of the first-year findings, RMC revised the original six packages, and USOE sponsored the development of packages based on other exemplary projects. There now exists a completely revised set of the original six PIPs; in addition, there are four bilingual-education PIPs and six new compensatory-education PIPs developed by CEMREL. The evaluation of the original PIPs in the second year of their field test focused on implementation and outcomes of the instructional programs resulting from use of the PIPs.

In this volume, we address the feasibility of the packaging concept. That is, we attempt to generalize from the experience with the six original PIPs in their first field test to the concept of packaging in general as part of a dissemination strategy. In Volume II we report on the second-year evaluation of the PIPs, with primary focus on the achievement outcomes of students participating in PIP-induced projects.

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I INTRODUCTION

In this section we give the background of Project Information Packages (PIPs) and discuss the evolution of the packaging-for-dissemination concept in the U.S. Office of Education (USOE). We describe the original PIP model, its principles and its assumptions as developed by RMC Research Corporation, and describe each of the first six PIPs produced by RMC. We then describe the field test of the PIPs during the 1974-75 and 1975-76 school years.

In Section II, we describe our evaluation of the use of PIPs in the field-test sites and present the results in terms of project implementation, outcomes for project participants and recommended revisions for the PIPs. In Section III, we summarize our findings about the PIP model of packaging. In Section IV, on the basis of our experiences in evaluating the first six PIPs, we discuss the implications for USOE's future support of packaging as part of their dissemination strategy.

Background of Federal Dissemination of Educational Programs

During recent years, various sectors of the Education Division of the Department of Health, Education, and Welfare (HEW) have begun to focus on the dissemination of useful and successful educational practices and technologies. Based on, but differing somewhat from, an earlier and less specific desire to spread innovative practices from federally funded projects and to improve federal program performance, both USOE and the National Institute of Education (NIE) have moved in the direction of designing systems to promote successful educational practices in school districts throughout the country.

NIE has focused on the discovery and appropriate use of systems that could link existing research and development (R&D) products and information services to educators in schools and districts and on the promotion of rational problem-solving techniques among educational practitioners who are the consumers of R&D information. At present, USOE is concentrating on attempts to get schools or districts to adopt specific programs or practices that have already proved successful in other schools or districts.

In the context of disappointing results from ESEA Title I program evaluations over a period of years, USOE has been more interested in promoting the placement of successful programs in sites they perceive as having unsuccessful program than in providing the kind of assistance that local education agencies (LEAs) perceive is needed. To achieve this goal, USOE has been trying alternative methods. The Division of

Supplementary Centers and Services, which administered Title III of ESEA, has been replaced by the Division of Educational Replication as sponsor of the National Diffusion Network; in this network, facilitators in each state introduce successful projects from their own or other states to interested local school districts within their jurisdiction. Under the Packaging and Dissemination effort administered jointly by the Office of Planning, Budgeting and Evaluation (OPBE) and the Bureau of Elementary and Secondary Education (BESE), the concept of information packages is being tried as a means of getting exemplary programs into school districts without costly visits, workshops, demonstrations, and exchanges.

Background of the PIP Concept

In 1972-73, OPBE could see that information dissemination, such as the "It Works" and PREP series, which consisted of booklets describing instructional programs that promoted achievement gains in various disadvantaged target populations, did not noticeably influence practice in the schools. Moreover, demonstration projects had not accomplished widespread adoption of successful programs, as was originally hoped. These experiences, in addition to the results of studies of organizational change, indicated that a more sophisticated concept of information dissemination was necessary.

OPBE realized that changing the educational practices in a school district required more than just communicating a general description of the program of another district. OPBE staff felt that the LEAs first must be made aware of the options available to them and how some of the successful programs might fit their needs, then must be provided with "how-to" packages to permit installation of the selected project in the new district. Through its evaluation of Title I and other compensatory education projects, OPBE recognized that the compensatory education projects of many LEAs were unsuccessful in terms of achievement gains and assumed that these districts would want to replace their ineffective projects with projects that had been proved effective. OPBE hoped that many school districts would be eager to obtain packages designed to promote implementation of successful programs for disadvantaged children.

OPBE reasoned that the less technical assistance that had to be provided to supplement the packages, that is, the more autonomous the packages, the less expensive the implementation would be. LEAs would save on the cost of developing their own programs locally; the federal government would save on technical assistance costs in the short run and on funding of local development and demonstration projects in the long run. Earlier experiences, such as Follow Through, in which successful sponsors trained local project leaders and teaching staff and generally assisted LEAs in implementing their exemplary programs, indicated that training and assistance from outside the district could be extremely expensive.

Thus, OPBE's packaging idea incorporated several notions that differentiated it from other dissemination strategies; for example,

- Program Replication--The concept of replication implies that, if the key elements of an effective program can be reproduced in a new site, the results of the program will also be reproduced.
- Autonomous Package--The package was to be a complete and self-contained collection of information, and instructions were to be assembled and structured so as to enable educators at a new site to select a program and implement it. The package was to contain sufficient "do-it-yourself" information to reproduce the program with minimal assistance.

Scope of the Packaging Problem

Justification of federal support for the development and use of packages for promoting projects depends on the answers to a set of critical questions:

- Can a largely autonomous package be designed to promote replication of an exemplary program in a new site?
- Do the programs that result from use of the autonomous package produce the same student achievement outcomes as did the original exemplary programs?
- Can the new programs be implemented at reasonable cost?

Before the first question can be answered, the following packaging problems must be faced:

- On what basis should exemplary programs be chosen for packaging?
- What are the essential features of these programs?
- What is the most effective design for communicating these essential features?

These three crucial problems might be dealt with in a number of ways. There are probably as many alternative methods of selecting programs and formatting packages as there are people to create them.* However, in this report we focus on one solution--the original PIPs. We first describe RMC's PIP model and the characteristics of the individual PIPs. In succeeding sections of the report, this permits us to show, on the basis of our evaluation, which parts of the original model appeared sound, which did not work, and which were remedied. We then go beyond the PIP concept and draw implications about the ways in which packaging can be considered a feasible dissemination device for USOE to employ.

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*For example, USOE's Right-to-Read program office has developed packages that improve on an earlier version consisting only of curriculum kits and brochures describing them.

The Original PIP Model

In the Spring of 1973, RMC was commissioned to create packages that could fulfill USOE's aims for a cost-effective mechanism for disseminating exemplary programs beyond their developers to school districts with less successful compensatory educational projects. Consequently, RMC developed criteria for selecting operational approaches to compensatory education worthy of widespread use and amenable to installation in other schools, selected successful compensatory education programs for packaging, designed a model of what information the PIP should contain and what the media should be, developed project-specific models for each of the successful programs, and prepared PIPs on the basis of them (Tallmadge, 1974).*

Criteria for Identification of Exemplary Programs

A great deal of time and effort was spent developing criteria for selecting exemplary programs. Because USOE felt that PIPs might eventually be disseminated for Title I project use, they limited the selection to reading and mathematics projects for disadvantaged students in kindergarten through twelfth grade. An elaborate search and review procedure was then designed for use in selecting eight projects for packaging.† Over 2,000 projects were suggested or recommended for consideration; after an initial screening, over 100 were subjected to a thorough review.

Project selection criteria were developed jointly by RMC and OPBE in three primary areas: effectiveness, cost, and availability and replicability.

Effectiveness--"The effectiveness criterion had two separate aspects, statistical and educational significance. Both were cast in terms of (a) the pre- to post-test gains of project participants and (b) the gains which would have been expected had they not received the special treatment. The educational significance criterion which was agreed upon specified that observed gains had to exceed expected gains by at least one-third standard deviation with respect to the national norms. The statistical significance criterion specified that the difference between observed and expected gains had to reach or exceed the five percent confidence level using a one-tailed statistical test" (Tallmadge, 1974, p. iii).

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*A list of references is appended to this report.

†Foat (1974) prepared a detailed description of the selection process.

Because there were almost no cases in which a control group was used in evaluations, RMC decided that "expected gains" for students in compensatory programs would mean that the group remained in the same percentile on both a standardized pre- and post-test. RMC felt that they would screen out some marginally effective projects if they considered only those groups that exceeded these expected gains by at least a one-third standard deviation (with reference to the norm distribution of a particular test). RMC did not always test for statistical significance, and they sometimes used methods other than the norm-referenced method described here. It was admittedly an arbitrary way to determine educational significance, but no commonly endorsed criterion exists in the field of education.* The amount of change that is called "educationally significant" depends on the values of the agency making the judgment.

Using these criteria, RMC had extreme difficulty in finding programs successful enough to be recommended. "Not one of the several hundred project evaluations which were examined provided acceptable evidence regarding project impact" (Tallmadge, 1974, p. iv). Even where adequate data had been collected, analysis and reporting practices forced inferences to be drawn with caution. Of those projects with reasonably reliable data on some norm-referenced test, only a few were above the effectiveness screening criterion. To meet the criterion, the project had to provide evidence of statistical and educational significance in a minimum of two instances, for example, at two different grade levels or for two different years. Under these conditions, only six projects met the effectiveness criterion (and the other criteria).

Cost--Although attempts were made to find inexpensive programs that were also effective--to make it more likely that programs would be exportable to many sites--a recurring cost of about $475 per student was eventually established as the upper limit for projects selected, with the additional provision that start-up costs not exceed $1000 per student.

Availability and Replicability--These areas were more judgmental and were based on the fact that the packages were likely to be disseminated--at least on a trial basis--under the auspices of the federal government. Projects were rejected on the criterion of availability if directors and staff were unwilling to cooperate in helping the packaging effort or if the project was no longer operating and could not be visited for validation. Projects were also rejected if they were not operating in public schools or if their selection would amount to USOE endorsement of a single publisher's or manufacturer's commercial product(s). Projects were rejected on the criterion of replicability if they required resources not generally available in typical school districts. This consideration included highly unusual personnel, equipment, or environments. Examples of projects rejected on replicability grounds are a university-operated elementary school and a project requiring major architectural modifications to the typical school building (Tallmadge, 1974, p. iii).

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*RMC published a practical guide to project evaluation on the basis of their experiences in searching for exemplary programs. SRI used the methods described in this booklet by Horst, Tallmadge, and Wood (1975) to evaluate student achievement in the PIP field test.

Characteristics of Programs Meeting Criteria

Although RMC tried to find eight projects, only six met the criteria and were eventually selected. The six projects were presented to USOE's Dissemination Review Panel and were approved as exemplary. They are:

Project Catch-Up	Newport-Mesa Unified School District Newport Beach, California
Project Conquest	School District 189 East St. Louis, Illinois
High Intensity Tutoring (HIT)	School District of the City of Highland Park Highland Park, Michigan
Intensive Reading Instructional Teams (IRIT)	Hartford Public Schools Hartford, Connecticut
Programed Tutorial Reading (PTR)	Davis County School District Farmington, Utah
Project R-3	San Jose Unified School District San Jose, California

We describe the six programs below and present in Table 1 a brief summary of the characteristics of each program.

- Project Catch-Up--Catch-Up provides remedial instruction in reading and arithmetic for low-achieving children in low-socioeconomic suburban areas. Although the program in its original site serves children from preschool through twelfth grade, the Catch-Up PIP describes only the elementary portion of the program, kindergarten through sixth grade.

  The major instructional emphasis of the program is the diagnosis of learning problems through extensive use of criterion-referenced test series. Classroom attitudes reflect an assumption of success, and activities are assigned to ensure that students experience constant success. Learning experiences are individually prescribed and are provided by a special staff of certified part-time teachers and instructional aides in an attractive

Table 1

CHARACTERISTICS OF THE SIX EXEMPLARY PIP PROGRAMS

Program	Catch-Up Newport Beach, California	Conquest East St. Louis, Illinois	High Intensity Tutoring (HIT) Highland Park, Michigan
Subject areas	Reading and math	Reading	Reading and math
Students served	Students in grades K-6 who need help in reading or math; average student-teacher ratio, 5:1.	Students in grades 2-6 who are two years or less below grade level, and first grade repeaters; student-teacher ratio, 6:1.	Students in grades 6 or 7 one to five years below grade level tutored by students in grades 7 or 8, at least two years ahead of them on a one-to-one basis.
Nature of program	Students come from classrooms to the Catch-Up lab every morning. The lead teacher, the two other teachers, and the aide work independently with children for 30 minutes. Parent aides assist in instruction.	Students come from classrooms to reading rooms (grades 1-3) or clinics (grades 4-6) for 45 or 50 minutes each day. Heavy diagnostic testing determines areas that the lab clinicians will work on with each student.	One tutor works with one tutee using programmed curriculum for 20 minutes under supervision of a reading or math specialist and two aides. Rewards are earned by tutors as well as tutees.
Program	Intensive Reading Instructional Teams (IRIT) Hartford, Connecticut	Programed Tutorial Reading (PTR) Farmington, Utah	Project R-3 San Jose, California
Subject areas	Reading	Reading	Reading, math, and social studies
Students served	Students in grades 3 and 4 who need help in all areas of language arts; student-teacher ratio, 15:1.	First graders who need help learning to read are tutored on a one-to-one basis.	In the project's first year, all seventh graders in heterogeneous classes (gifted and slow learners); student-teacher ratio, 20:1.
Nature of program	Forty-five students from several schools are brought to one site each morning for 11 weeks for intensive instruction by three language arts specialists in three one-hour sessions.	Students are tutored apart from their regular classrooms for 15 minutes a day by paraprofessional tutors; programmed kits designed for the basal reader used in the classroom are the only curriculum materials used.	Forty-five minute periods of reading, math, and social studies offer an integrated curriculum oriented to gaming/simulation, individualized instruction, and an intensive involvement study trip. A cadre staff (one teacher per subject) moves with students to grsdes 8 and 9.

"laboratory" environment. It is essential to the philosophy of the program that each teacher be responsible for both the reading and math gains of 18 students; the teacher is allowed a great deal of autonomy in achieving these gains. The lab is set up within an available classroom in the school. The program operates only in the morning, when both staff and students are fresh.

- Project Conquest--Conquest is a clinical approach to reading in which the teachers (called clinicians) intensively diagnose students' reading problems and then prescribe a structured learning program to be followed by each child over a period of time. The project director provides clinicians with training and extensive supervision in remediation techniques, testing and diagnosis, and related areas. The clinics (for grades 4-6) and reading rooms (for grades K-3) are separate from the regular classroom and serve groups for 45- or 50-minute periods each day.

- High Intensity Tutoring--HIT is a cross-age tutoring project for sixth, seventh, and eighth graders. Older students tutor younger ones daily in reading and math, using programmed and drill materials. Both tutors and tutees may be performing one to three years below grade level on standardized tests. Tutoring is fast-paced and intense. Teachers and aides monitor tutoring, distribute rewards, and keep detailed records to control the student error rate (RMC, 1976).

- Intensive Reading Instructional Teams--The IRIT program is designed to raise the level of language and reading achievement of third and fourth grade pupils and to develop in them an appreciation for and pleasure in reading. IRIT employs a team-teaching approach with three specialists--for phonics, individualized reading appreciation, and vocabulary/comprehension.

  The IRIT program is divided into three 11-week cycles. Forty-five students are selected for each of the three cycles. During the cycle for which they have been selected, the students leave their regular classrooms to attend the IRIT classes for three hours each morning, five days a week. The 45 students in the program are heterogeneously divided into three groups of 15 each. During the three-hour morning, each group of 15 students spends one hour on phonics, one on vocabulary and comprehension, and one on individual reading.

- Programed Tutorial Reading--PTR was developed by Indiana University researchers who have assisted many districts in implementing the program. In the PTR exemplary site (Farmington, Utah), paraprofessionals or older students provide tutoring for first graders who are having difficulty learning to read. Each child has a daily 15-minute session with a tutor who follows a highly structured instructional sequence geared to the basal reading series used in the classroom (RMC, 1976).

- Project R-3--R-3 is a reading, mathematics, and social studies program that emphasizes student readiness, subject relevance, and learning reinforcement. All seventh grade students participate in R-3 and continue in the program during the eighth and ninth grades. Each student attends one 45-minute period in each of the three subject areas daily. Because R-3 serves an entire seventh grade, the group is heterogeneous (i.e., not composed of only low achievers). Gaming/simulation activities, individualized instruction, an intensive involvement study trip, and parent involvement are motivational techniques important to R-3 and require teachers to plan curriculum together around common themes.

Each of the programs is unique. PTR and HIT are tutorial programs in which instruction is provided on a one-to-one basis. However, PTR is a first grade program scheduled for 15 minutes daily; paraprofessionals who follow programmed materials determine the individual pace and provide immediate feedback. HIT is for middle school students; tutors are students whose achievement is somewhat above that of the tutees and who are supervised by the teacher rather than guided by programmed materials. IRIT, Catch-Up, and Conquest are laboratory programs that use various kinds of diagnostic-prescriptive instructional approaches. The lab instruction is arranged and managed differently in each, and only Catch-Up and IRIT require highly qualified reading specialists as teachers. R-3 is unique among the exemplary programs on many dimensions.

Although the exemplary programs are different, they have several important characteristics in common. All but one program (R-3) are "pull-out" and "add-on" programs. That is, students are pulled out of their regular classrooms to participate in the special project, and the project supplements rather than replaces the regular classroom teaching. In addition, except for R-3, these programs do not require regular classroom teachers to make changes in their methods or behavior other than to adjust schedules so that children can be released to participate in the project.

Identifying Appropriate Features to Be Packaged

Because the idea of developing PIPs was to enable replication of both a program and its effects, the logical way to make such packages would be to describe the features of the program that caused it to be effective and then determine their relationships. Anyone familiar with the state of the art in education research knows, however, that the "essential features" (or necessary and sufficient conditions for generating particular levels of achievement in reading, mathematics, or self-esteem) are not known. In fact, different students rarely show similar correlations between a set of resources or teacher characteristics or classroom strategies and achievement outcomes for children in an educational program.

In the face of this, RMC's approach to the problem of determining program features to package seemed reasonable. Trained psychologists, several of who had been either teachers or curriculum designers, who had already reviewed hundreds of programs and noted the commonalities among the more successful ones, visited the six exemplary programs. They observed the "obvious" features of the programs; they noted features that differentiated these programs from each other and from others; they talked with the developers and participants in the programs in their original locations; they obtained the project directors' opinions about the important elements and the priorities among elements; and they called on the memories of the project directors about the original installation processes and the refinements of implementation since installation. They then used their own and the project directors' best judgments to determine the desirable outcomes at various stages and applied common logic and intuition to determine the necessary steps and timing of events that seemed likely to produce those outcomes. Finally, they were able to describe the features and to specify the activities for the six exemplary programs at the level of detail that seemed appropriate to them.

Design for Communicating Program Features

The PIP model developed by RMC was designed to guide local staff through three distinct stages: selection/adoption, start-up, and operations. An Analysis and Selection Kit (ASK) was planned for facilitating receipt of an appropriate PIP in the selection/adoption stage. The PIPs themselves were designed to enable staff to install the project in a school district (the start-up stage) and to implement the instructional program and supporting tasks (the operations stage).

The PIPs themselves were produced by a subcontractor to RMC, based on both the overall PIP model design and the detailed specifications developed by RMC for each individual program. The original PIPs were boxes (18 x 14 x 12 inches) with ten upright drawers (containing nine components) and one large flat drawer at the top (see Figure 1). Inside the drawers were booklets, such as the "Project Management Directory," and brochures, filmstrips, cassettes, and charts.

> The first four components were concerned with planning and other preimplementation tasks required to equip, staff, and set up a new project in a school district. They were primarily intended to assist the director in installing the adopted project. The remaining five components were more specifically concerned with project implementation and were directly related to the day-to-day operation of the project after it was installed (Tallmadge, 1974, p. v).

Table 2, adapted from an RMC report (Piestrup, 1974), summarizes the PIP components and their purposes. The most notable characteristics were that many PIP components were addressed to the project director and that most components for both project director and teachers focused heavily on management tasks for installation of the project in the site and for setting up appropriate conditions for the instructional program in the classroom or laboratory. That is, unlike many previous curriculum packages aimed exclusively at teachers and unlike previous well-written project descriptions, the PIP components were oriented toward project installation and management.

Because the introduction of the packages to potential users and the processes within the LEAs for selecting/adopting a program were not encompassed by the PIPs, the ASK was conceived. The prototype developed consisted of the following:

- A brochure for wide dissemination, describing the six exemplary programs and their availability in the form of PIPs. (This kind of brochure had been available for other programs packaged for dissemination, such as that sponsored by the Right-to-Read program.)

- Further information, available upon request, about each of the six programs. (This information was to enable an LEA to choose the program that was best suited to its needs, resources, and educational philosophy.

- A set of orientation materials (actually the very materials contained in the "Starter Set: Planning" component of the PIP) to enable LEA staff to orient school board, community, instructional staff, and the like to the selected program.

The ASK had barely reached the prototype stage when USOE created an opportunity to test the PIPs in the field.

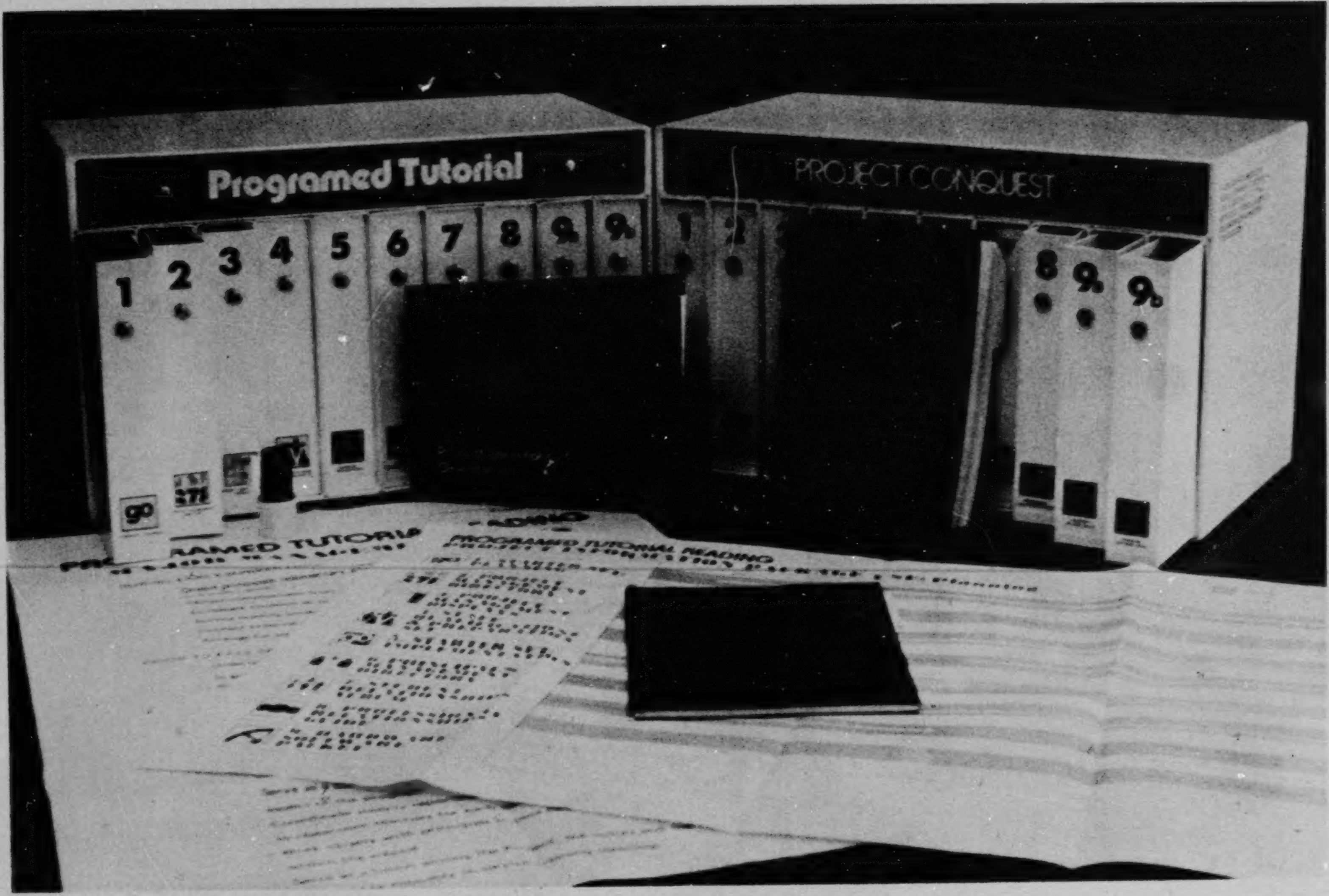
Programed Tutorial
PROJECT CONQUEST
1
2
3
4
5
6
7
8
9a
9b
1
2
8
9a
9b
PROGRAMED TUTORIAL
PROGRAMED TUTORIAL READING

FIGURE 1 PROGRAMED TUTORIAL READING AND PROJECT CONQUEST PIPS

Table 2

SUMMARY OF PIP COMPONENTS

Component	Personnel/Purpose	Contents
Installation (start-up) stage 1. Starter set: planning	For project director: Provides orientation to project Provides public relations materials on project and package Provides introduction to package (and director's role in project)	Filmstrip with cassette tape Handout brochure Project director's orientation booklet (with cassette tape for some projects)
	For school boards, principals, regular school staff, potential project staff, parents: Provides information to elicit support	Viewfoils
2. Project management directory	For project management personnel (project director, assistant director, principal, as applicable): Provides detailed guidelines and support materials needed to plan and implement (operate) the project	Project management calendar Supplementary sections on the major management tasks
3. Project management displays	For project director and visitors: Provides time schedule overview Summarizes component use Displays component use and time schedule to visitors	Major management tasks chart PIP use displays
4. Staff qualifications and preparation set	For director: Provides personnel selection guidelines	Staff qualifications checklist
	For staff: Provides self-evaluation and orientation materials	In-service training topics
Implementation stage 5. Starter set: implementation	For project classroom personnel: Helps in starting each type of activity (testing, teaching, other) including setting up environment for the first time	Implementation starter booklet Original art file
6. Classroom management directory	For project classroom personnel: Provides guidelines for classroom procedures Provides samples of materials needed for administration of the project, record forms, letters and notices, and the like	Teaching staff guide (e.g., a calendar and support materials)
7. Student relationships album	For project staff interacting with children: Describes the project environment, from the child's viewpoint, that staff is expected to create (e.g., how he should perceive staff; what learning climate he should experience--high pressure, self-directed, and so on) Distinguishes roles of different staff members in creating environment Describes desired student responses (e.g., confident, competent, happy, eager) and gives specific instances	Album
8. Professional relationships guide	For all project staff (plus principal): Defines roles in relation to all school staff (project and nonproject) with whom each project member interacts Provides descriptions of potential staff conflicts and suggested resolutions	Guide booklet
9. Hardware/software packet	For project director and teaching staff: Aids in selection and ordering of commercial hardware/software Provides description, source, and features of core and supplementary items	Factsheets and manufacturers' brochures for core items Supplementary materials list with publishers' addresses, available factsheets, and brochures
	For teaching staff: Describes experience of original project staff plus modification (if any)	

Source: Piestrup (1974).

Assumptions by Stage

Selection/Adoption

Although RMC made some assumptions about the way in which the PIPs would get into the hands of appropriate LEAs, util early in 1974 USOE had made no specific plans for disseminating the PIPs. Thus the development of the ASK and federal plans for disseminating the packages were not well coordinated. The assumptions on which the original ASK was based are as follows:

- It was assumed that motivation was present to select and adopt a new program. Previous evaluations of a national scope had indicated that many compensatory education projects were not successful in increasing achievement gains. USOE assumed that LEAs with unsuccessful compensatory education programs would be interested in replacing them with programs of proved effectiveness. RMC believed that school districts might at least feel that they were not making the most effective use of their compensatory funds. Both ASK and PIPs were dependent for their use on the motivation of LEAs, and, from the federal perspective at that time, it appeared that the incentive for LEAs would be the replacement of their unsuccessful programs by a project with a high likelihood of success in terms of student achievement.
- It was assumed that LEA staff would receive and use the ASK information about the original sites to choose the exemplary program best suited to their needs and most likely to fit within the context of their school districts. There was to be enough information about the original community characteristics, schools, and program styles so that potential adopters would not select a program whose original context did not match their own. (As the prototype ASK was being designed, RMC was already aware that USOE planned to match PIPs and sites for the field test.)
- It was assumed that capable leaders would participate in the adoption of PIP projects. At the original sites, project directors were district staff who were experienced and able and were allowed some independence of action. RMC assumed that unless similar people emerged in new sites to participate in the grant proposal effort and to hire, train, and provide leadership for instructional staff during the start-up and operations phases, the PIPs would not work.

Start-Up

Theoretically, the PIP was to be sent to a project director in a school district that was "suitable," that is, where the management style was "compatible" with that described in the ASK and reflected in the PIP. The PIP was to arrive between three and seven months before the start of the next school year, depending on which project was selected. The earliest (Catch-Up) was to begin in March, and the latest (PTR) was to begin in June. Even though the start-up phase had extended over several years at some of the original sites, a more efficient start-up process was created for each PIP. From three to seven months (depending on the project) was considered sufficient for installation in a new site, the assumption being that the new site could benefit from the original site's mistakes, adjustments, and changes without having to experience them. The PIPs specified how to accomplish the installation so that a successful project could be implemented within a year. The assumption was that, if project directors read and used the PIP appropriately during the start-up stage, they could and would accomplish the following tasks according to the specified time schedule:

- Hire appropriately qualified staff.
- Train staff adequately for the instructional program.
- Order appropriate materials.
- Encourage supportive attitudes and cooperation on the part of project and nonproject administrative and instructional staff.
- Obtain appropriate facilities, equipment, and materials.
- Select appropriate students.
- Make appropriate logistical arrangements, including scheduling.
- Inform the community of the project and develop favorable public relations.

Operations

Having performed the start-up activities appropriately, project staff had to be assumed able to implement the instructional program described in the PIP and to continue maintaining and improving the project through in-service training, maintenance of smooth working relations with other school and district staff, and continued development of parental involvement and acceptance in the community.

Although RMC was aware that no two sites are exactly alike and no group of people will act and react exactly like another, their packages had to be based on the theory that, if used appropriately, the PIP would bring about appropriate actions on the part of the appropriate set of educators. These actions would then result in instructional conditions sufficient to bring about student learning equivalent to that in the original site. That is, if the exemplary project were installed and maintained as specified in an appropriate new site, the essential program features and original learning conditions would be replicated and the original results would naturally recur.

Field Test of PIPs

For FY 1975, OPBE and the USOE Division of Supplementary Centers and Services decided to try out the new PIP concept under Section 306 of Title III of the ESEA.*

In February 1974, while RMC was developing the PIPs, the Title III program office announced the availability of four types of grants under Section 306 and sent application requirements to all school districts. The announcement of Title III grants contained no information about the six PIP programs except that they were reading and math programs for disadvantaged elementary and secondary students. Although RMC had sent to OPBE some of the information LEAs would need to select a program suited to their needs, they had not yet put information about all of the six PIP programs into a brochure. (A prototype ASK did not become available until the Fall of 1974). USOE used the information to determine from the less-than-50 grant applications which LEAs seemed best suited to try out which PIP projects.

After a joint review of applications by Title III program officers, OPBE staff, and consultants, 21 PIP grants were awarded. One school district, which received grants for both the PTR and the HIT PIPs, returned the award after its board of education refused to approve participation in the program.

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*Under Title III, funds were appropriated for "supplementary educational centers and services, to stimulate and assist in the provision of vitally needed educational services not available in sufficient quantity or quality [and in the] establishment of exemplary elementary and secondary school educational programs to serve as models for regular school programs." Eighty-five percent of the funds appropriated by Congress under Title III were awarded on a formula basis directly to the states and territories for their administration. Under Section 306 of Title III, the remaining 15% of the funds were used each year at the Commissioner of Education's discretion for direct grants to LEAs applying for specific projects.

Seventeen school districts participated as tryout sites in the PIP field test. Since two of these districts had been assigned two PIPs each, there were 19 projects in all. Table 3 lists the school districts that participated in the field test.

Need for Evaluation

OPBE's role is to evaluate all programs sponsored by USOE and to make plans and budgets on the basis of the findings. OPBE also evaluates new ideas and programs and proposes them for either legislative action or implementation by bureaus with existing legislative authority.

The field test of the six PIPs represented an opportunity for OPBE to test the PIPs in school districts and to evaluate the feasibility of the PIP model and the six PIPs themselves as a device for USOE to use in disseminating programs that would improve the reading and mathematical skills of disadvantaged children. OPBE called for a "comprehensive portrayal and analysis of the process" from which to decide whether to continue, terminate, or modify the six original PIPs and the packaging concept.

Table 3

SCHOOL DISTRICTS PARTICIPATING IN FIELD TEST

Catch-Up	Conquest	HIT
Brookport School District Brookport, Illinois District No. 100 Wayne City, Illinois Galax City Public Schools Galax, Virginia Monroe County Community Schools* Bloomington, Indiana New Kent County Public Schools Providence Forge, Virginia	Benton Harbor Area Schools Benton Harbor, Michigan Cleveland Public Schools Cleveland, Ohio Gloversville Enlarged School District Gloversville, New York	City School District of Olean Olean, New York Holmes County School District Lexington, Mississippi
IRIT	**PTR**	**R-3**
Monroe County Community Schools* Bloomington, Indiana Oklahoma City Public Schools Oklahoma City, Oklahoma Schenectady City School District* Schenectady, New York	Canton Public Schools Canton, Mississippi Dallas Independent School District Dallas, Texas	Charlotte-Mecklenberg Schools Charlotte, North Carolina Lakeside Public Schools Lake Village, Arkansas Lorain City Schools Lorain, Ohio Schenectady City School District* Schenectady, New York

*School districts implementing two different PIP projects.

II EVALUATION OF THE FIELD TEST

Purpose of the Evaluation

The PIP field test was launched to determine whether the PIP model in general, and each of the six original PIPs in particular, constituted a feasible method of spreading successful educational projects beyond the sites in which they were developed. If, by selecting and using a PIP appropriate to their needs, people in tryout sites were found able, with little outside assistance, to produce the original program in their own schools and to demonstrate improvements in student test scores comparable to those reported by the original projects, the success of PIPs would be established. Even if it were found that these first tryout projects did not duplicate the programs exactly, but that revisions to the PIPs could be described that would be likely to enable LEAs to implement the instructional programs and thereby replicate their effectiveness, USOE would be able to justify further development of PIPs.

In evaluating the PIPs for use in a dissemination strategy, USOE required answers to the following specific questions, as noted in SRI's first report (Stearns, 1975):

- Are LEAs motivated to adopt a packaged program and select an appropriate one for replication?
- Can the exemplary programs be replicated in the new sites by means of the PIPs?
- For what functions and in what amount is technical assistance required?
- Are the programs implemented by means of the PIPs as effective in improving student achievement as the original exemplary programs?
- What are the effects of the programs on student attitudes?
- Are the PIP projects acceptable to LEA staff and to teachers, students, parents, and the community?

SRI focused on the questions stated in this summative manner over a two-year period. RMC, subcontractor for the evaluation, studied the installation processes in the field during the first year to determine the answers to the following formative questions bearing on revisions to the PIPs:

- When problems and nonreplications are due to faults in the current packages, can they be revised to permit implementation with fidelity?

- If considerable assistance is required, can the packages be made more autonomous?

In the first year, SRI and RMC together studied the installation of the projects. SRI concentrated on the fidelity of project installation to the instructions in the PIP and the amount of technical assistance required as a supplement to the PIPs. RMC focused on reasons for problems or deviations from PIP instructions in order to derive recommendations for revisions; they also assessed project costs. In the second year, SRI concentrated on PIP project achievement outcomes and the PIP-induced events that produced them. During this period, RMC designed a complete set of ASK materials and, on the basis of the first year's findings, completely revised the six original PIPs.

The evaluation was necessarily conceptualized at three levels, from the specific to the general, as shown schematically in Figure 2. Level C, the project level, was where the evaluation was actually conducted. Detailed data were collected on installation activities, project implementation, and outcomes at each of the 19 projects over the two-year period.

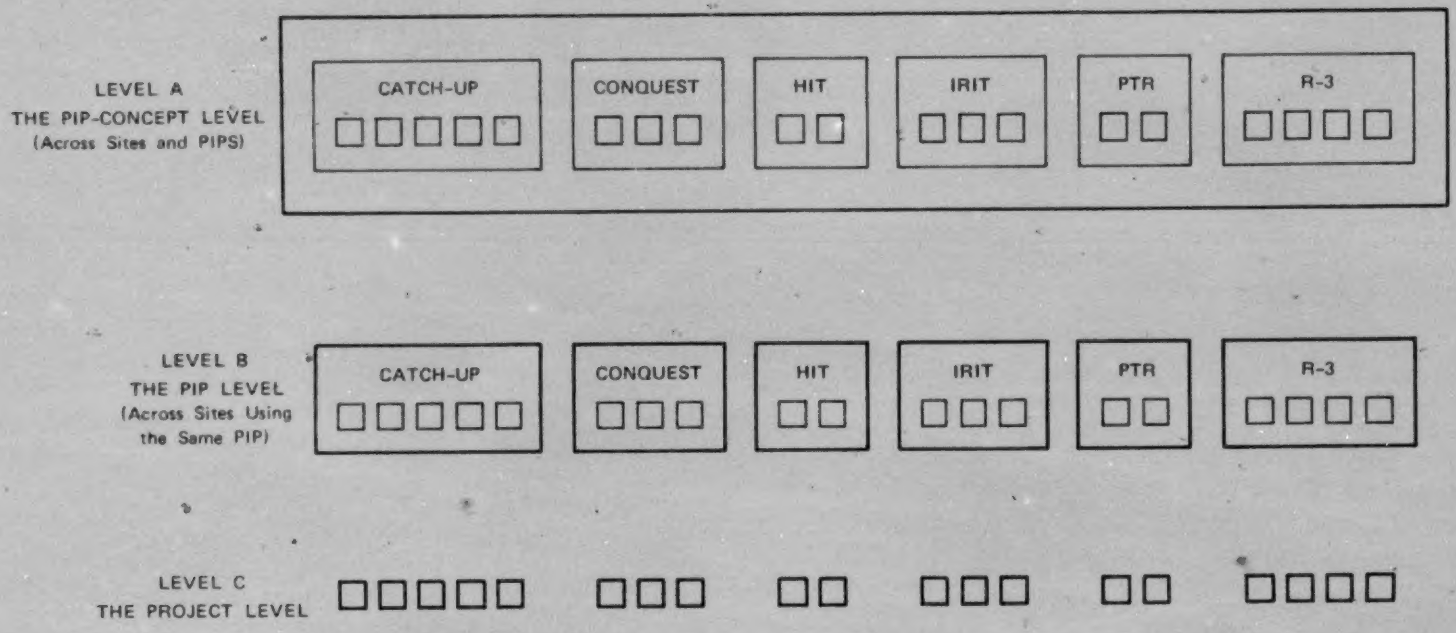
At Level B, the PIP level, summaries of project-level information were made across all sites that used the same PIP (e.g., all of the Catch-Up projects). At this level, variations in project implementation and outcomes were relevant for conclusions about the particular PIP program. When packaged information appeared to be the source of difficulties or variations, summaries at this level served to justify revisions for individual PIPs.

At Level A, the level of the PIP model of packaging, generalizations were made to answer USOE's questions about whether exemplary programs can be replicated by means of PIPs. Because USOE is also interested in thinking beyond the PIP model to the role of packaging in general as part of their overall dissemination strategy, we used our experiences in studying PIPs and in observing differences between PIP dissemination and other federal dissemination efforts to discuss implications at a level of generalization above that of Level A.

First-Year Study (1974-75)

The first year's study focused on how program installation occurred at each site and whether project staffs were able to assemble all personnel and resources in the right mix to establish the instructional programs. It was not possible to investigate replication of the original, exemplary program by direct comparison with the field-test project because:

- The original programs no longer existed in the form in which they had been packaged; they had evolved in the two years since they had been validated.


LEVEL A
THE PIP-CONCEPT LEVEL
(Across Sites and PIPS)
LEVEL B
THE PIP LEVEL
(Across Sites Using the Same PIP)
LEVEL C
THE PROJECT LEVEL
CATCH-UP
CONQUEST
HIT
IRIT
PTR
R-3

NOTE: ☐ = An individual project.

FIGURE 2 CONCEPTUAL LEVELS OF THE PIP EVALUATION

- The start-up guidelines in the PIP had been synthesized by RMC, based on experiences in the original site; the PIPs specified briefer, more efficient installation processes than had actually occurred in the original site.

Since PIPs were based on the assumption that strict adherence to the guidelines would lead to replication of the original site's success, our method was to compare each project's activities with the PIP specifications for each step of the installation process.

This method was not applicable to the selection/adoption stage. The selection/adoption process intended by RMC could not be investigated directly in the field because the ASK had not been available to LEAs during project selection.* Therefore, it was necessary to document events in the field-test sites retrospectively and then judge whether the ASK would have brought these events closer to RMC expectations.

In actuality, getting PIPs to field-test sites was a radically different process from that originally envisioned in designing the ASK. In February 1974, a federal request for applications, sent to all school districts in the nation, announced the availability of several kinds of grants under ESEA Title III, Section 306. One kind was "to serve as a field-test site for one of up-to-eight Project Information Packages (PIPs) related to successful compensatory education programs (basic skills in reading and mathematics)." The various PIPs were not described. The fewer-than-50 applications received contained scant information on which to match PIPs with appropriate, compatible sites. Nevertheless, USOE made assignments and awarded grants of approximately $100,000 each for PIP project implementation. The assigned programs were not always compatible with the needs LEAs had hoped to meet nor with the resources they had available.

It was difficult to determine what the PIP adoption process would have been, had the ASK package been available and used by LEAs for self-selection. Clearly, however, LEAs were not motivated by the replication notion (i.e., achieving the successes of the exemplary programs merely by following the PIP guidelines). Although they accepted the constraints (to follow the PIP specifications) placed upon them by USOE as a condition of the grants, LEAs did not replace their regular compensatory education programs with the new programs.

Another problem to be considered in the evaluation plans was that the 19 tryout projects received their PIPs in July and August, much later than intended, and many of the specified management tasks were already months behind schedule when the packages arrived on site. It was impossible to know what the installation process would have been, had the packages arrived in time to allow the orderly progression of start-up events described in the PIPs.

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* Currently, the American Institutes for Research has a contract with OPBE to investigate (among other matters) the selection/adoption process in which the new ASK package is used to introduce the revised set of six PIPs.

In any case, the major evaluation strategy was to compare what was anticipated in the PIP concept and specified in the PIPs with what actually occurred at the project sites. For the selection/adoption stage, we could only compare actual events with events that the ASK-PIP developers had assumed would occur, but for the start-up and operations stages, we compared actual events at sites with the literal specifications in the PIP components.

Methods

The data on which the field test evaluation is based were collected at each project in the following ways:

- Semi-structured, intensive interviews with project and nonproject personnel.
- Observations of the resources for the PIP instructional program in selected classrooms and laboratories.
- Administration of achievement and attitude tests to participating students.
- Administration of questionnaires to all project instructional staff, selected nonproject instructional staff, project directors, and selected district administrative personnel.
- Voluntarily submitted reports of contacts made regarding additional information and assistance.

Table 4 summarizes the data collection schedule. In the selection/adoption stage, we interviewed those who had been engaged in applying for and reviewing PIP grants. We inquired about motivations for applying, reason for award of grants, choice of project director, and the like. We also gathered demographic data at each project to determine matches or mismatches between PIPs and projects relative to size and type of community, resources available, student populations, and educational need to be addressed.

Information gathered during the start-up stage was directed toward finding out whether local staff had been able to install the project, what problems they encountered, and in what ways they deviated from the PIP specifications. Thus, we gathered information regarding:

- Hiring procedures and qualifications of project staff.
- Student selection and scheduling.
- Ordering of materials and equipment.

Table 4

SCHEDULE FOR DATA COLLECTION

Data Collection Activities, by Date of Site Visit					
August	September	October	February	March	April
Interviews with LEA administrators Interviews with federal officials regarding selection/adoption process Title III grant proposals obtained	Interviews with project staff to assess the start-up process Pretesting at PTR sites	Pretesting to obtain baseline achievement and affect data Interviews with project staff to assess the start-up process	Observations to assess the instructional process Informal contact with parents Administrative and instructional staff questionnaires sent to sites Interviews with project staff to assess operational processes	Resource/cost questionnaire administered	Posttesting (including student attitude questionnaire) Interviews with project staff

Note: Contact reports and site/community descriptors were obtained throughout the data collection period.

- Furniture and physical arrangements of the classroom/laboratories.
- Orientation and community public relations.
- Preservice and in-service training.
- Staff roles and relationships.

Reasons for problems or for discrepancies between PIP specifications and actual occurrences were noted and discussed. Interview questions were open-ended. Table 5 displays the categories that guided the interviews with district staff, project directors, and teaching staff at each project.

For the operations stage, we continued to follow the strategy of comparing actual events with PIP-specified events. We gathered information on how the acquired resources were deployed; that is, we studied project use of materials and equipment, student grouping patterns, and instructional activities and behaviors in the labs and classrooms. These we investigated primarily through classroom observation in February. Through interviews, we also investigated management functions supporting the instructional program, such as planning and coordination of lessons, communication with nonproject personnel and parents, and the like.

Results

Installation

The early stages of installation gave evidence of three main sources of difficulty: late arrival of packages, ambiguities in the written information in the PIPs, and USOE's rules for seeking assistance.

Project directors tried to compensate for the difficulties and worked to achieve the results desired in the PIP-specified manner. Thus, by the beginning of the school year or a few weeks thereafter, the main resources required for the projects were present. The project staff, most of whom were appropriately qualified, were on hand; however, because project directors lacked the requisite understanding or the experience desired, teachers were not too well prepared for the instructional tasks ahead. Classroom and other facilities were provided with most of the required PIP equipment and many of the instructional materials. Appropriate student selection was accomplished in most sites by the end of the first few weeks of school. To the casual observer, the new projects resembled the original projects as described, and project installation was accomplished on the basis of the packaged instructions with little assistance from outside the district.

Gross activities were carried out (e.g., selection of students, ordering of materials, hiring of staff), and major resource units specified were acquired (e.g., classroom facilities, teachers, equipment). However, each of the new sites exhibited some variations from the

Table 5

GUIDE FOR INTERVIEW TOPICS

PIP-Specified Event	Installation Difficulty			Source of Difficulty		
	Nonreplication					
	Modifications	Adaptations	Problems	Packaged Instructions	Context Match	Other
Hiring staff						
Establishing project roles						
Student selection						
Arranging facilities						
Staff training						
Ordering materials						
Orienting nonproject personnel						

details of the PIP specifications. For example, the R-3 PIP specified that classrooms were to be carpeted, presumably to encourage informal groupings of teachers and students and to facilitate gaming and simulation activities. Although one tryout project had complied with the other major features described in the PIP, the school district refused to carpet the classrooms. One does not know whether carpeting is an "essential feature" of the R-3 program.

At the end of the first year's study, we concluded that, in spite of the difficulties encountered by LEA personnel in obtaining the Title III PIP grant and in attempting to implement the PIP specifications for the start-up stage, project installation was accomplished. In every site, with the possible exception of one, there was a PIP project (or projects) in existence. All Title III PIP projects were recognized as entities in their school districts. By February, in all but a few schools, the instructional programs were installed at the level of detail specified in the PIPs. It had become clear, however, that "replication" did not describe the new projects. Although, across sites, classrooms of one type of PIP project were very much like one another, and although class configurations of one type of PIP were distinguishable from classes in projects based on other PIPs, many differences in instruction existed among teachers, schools, and projects.

Formative Evaluation

By determining the reasons for modifications of (or deviations from) the PIPs and by examining the nature of the questions asked by staff or the technical assistance they requested, RMC was able to generate recommendations for revision of the PIPs. In analyzing an exemplary program, the PIP developer must be able to see a coherent model of learning on which to base the PIP specifications. Without a clearly stated rationale, the user is not convinced that it is important to carry out a recommended activity or that modifications to or deviations from the recommended activity will not accomplish the same end. Thus, for each program, RMC elaborated a model that separated intermediate outcomes (e.g., appropriately qualified teachers) from activities designed to achieve those outcomes (e.g., recruiting staff by posting qualifications in school buildings and district offices). RMC recommended that all six PIPs be thoroughly revised to reflect the distinctions between intermediate outcomes to be achieved by the end of each stage and the tasks or procedures recommended for achieving them.

Although project staff were encouraged to resist the impulse to seek help, projects were not expected to be implemented on the basis of the information in these first PIPs entirely without assistance from outside the district. Examination of the contact reports revealed areas in which PIP descriptions were inadequate and helped generate revisions to make the packages more autonomous. RMC recommended revising PIPs so that:

- Teachers would be better prepared. For example, preprogram workshops would be viewed not as mere orientation sessions, but as the central mechanism for putting the instructional program together.
- Instructional methods and techniques would be spelled out in considerably more detail, and the curriculum or techniques that teachers were free to vary would be less ambiguous.
- Materials and equipment would be more clearly specified and information about ordering would be comprehensive and accurate.
- The importance of project directors' roles would be better understood and accepted by school district officials.
- The rationale, recommended procedures, and impact of selecting students for inclusion in the program would be better communicated.
- Physical organization of the materials would be based on staff roles rather than on stages of project installation. This necessitated developing manuals for each staff member. In addition to delineating the responsibilities of the pertinent staff member, each manual would contain general descriptions of the roles and responsibilities of others as they affected the staff member.
- All component materials would be organized for easy reference as well as for continuous reading.

The formative investigations of PIPs also revealed that the PIP delivery strategy had considerable influence on the adoption and installation processes. The field-test sites were generally motivated to apply for PIPs and to implement PIP projects with fidelity because of the Title III grant to which they were attached. The motivation of future sites for applying for PIPs without funds would probably be quite different (e.g., LEAs may wish to establish more effective Title I projects to meet state requirements). Motivation to install and implement the project with fidelity to the original program would probably also be different without the constraints of a grant agreement. Assuming USOE did not intend to use the grant method for disseminating PIPs in the future, LEAs would choose them only on other grounds (e.g., fulfilling requirements of other state and federal categorical programs), and local staffs would implement them with fidelity only if they met local needs and educational philosophy, and if staffs were aware of resource requirements for installation.

An entirely new ASK package had to be conceived and designed to fit USOE's planned dissemination strategy. To accomplish these purposes, RMC recommended that the original ASK and PIP materials be replaced by those shown in Table 6. RMC recommended that the PIPs be formatted to

Table 6

MATERIALS RECOMMENDED FOR REVISED ASK AND PIPS

Materials for Selection/ Adoption Stage	Analysis and Selection Kit (ASK)	Overview brochure Project selection guide Project description booklets (6) Criteria checklists for determining project compatibility (6)
	Project Orientation and PIP Application Materials	Presenting Project (PIP) Filmstrip/cassette tape One-page handout description Illustrated brochure Poster depicting the PIP Application for a PIP Budgeting worksheets
	Funding Agency Materials	Disseminating agency manuals Model application for a PIP
Materials for Start-Up and Operations Stages	Project Director's Materials	Project management directory (with evaluation manual) Materials/equipment catalogue Project management calendar Orientation/public relations package Training manual Training videotape Tape/slides skill training kit (PTR only)
	Teacher's Materials	Teacher's manual Project-developed materials (materials/ equipment catalogue)
	Materials for Other Personnel	Counselor's manual (Conquest only) Nurse's manual (Conquest only) Principal's manual (PTR only)

Source: Horst, Piestrup, Foat, and Binkley (1975), Appendix A.

be more compact and utilitarian, while retaining their attractiveness and project identity.

Cost Study

Three findings emerged from the resource/cost study of the tryout projects. First, it was clear immediately that project expenditures were determined exclusively by the size of the Title III PIP project grants (i.e., expenditures expanded to fill the amounts made avaliable). Because estimates of required budget amounts had not been available to USOE, most of the project grants were generous. Thus, resources used at the field-test sites did not reflect what was necessary, but rather what could be encompassed within the amount of the grant. Second, because staff costs are always the greatest proportion of total costs in educational programs, per-student costs were shown to be greater in PTR projects than in other projects, although costs for each student hour of instruction were less than in other PIP projects. R-3 showed the lowest cost-per-student because it served an entire grade and did not require adding many teachers. Third, RMC saw that it was necessary to develop a budget worksheet to enable districts that were considering PIP project adoption to determine the probable cost of the project in their schools. By reexamining essential components of each PIP program and by interviewing original and tryout sites' personnel about existing facilities, materials, equipment, and general school district budgeting practices for project directors and instructional staff, RMC was able to create a budgeting worksheet to be included in the new ASK.

Impacts on Participants

Although our emphasis in the first year's study was on the process of implementing the new projects rather than on student outcomes, we did not expect that students would suffer any ill effects from the experience. Our expectations proved correct. Against the norm-referenced achievement standard by which the exemplary programs were selected, the outcomes in a sample of PIP students tested on the Metropolitan Achievement Test (MAT) (Form F, 1970) showed no significant losses or gains.

Since USOE expected us to measure other intended and unintended outcomes of the study, we measured attitudes of students and nonproject staff as well as attitudes of project teaching and administrative staff. Results of student attitude inventories showed that favorable attitudes held by PIP students in the fall did not diminish during the year. In fact, PIP-specific questionnaires revealed that most students were enthusiastic about their participation in the projects.

The teachers' pride in developing in their own schools an instructional program that they considered to be exemplary and to be meeting the educational needs of the students in the district better than before, was probably the most striking positive impact we observed during the first year. As evaluators, we had expected that staff who were obliged to be guided by a package of instructions would feel restricted and over-controlled and would perform their roles with some resentfulness. Actually, the opposite occurred. Because there was nothing but written information to guide them--no help from experienced people--project directors and teaching staff were thrown on their own resources for bringing the project into being, for solving the installation problems, and for deciding how to conduct the program on a day-to-day basis. There was considerable pride of ownership in the project at almost every site. In this way, PIP projects seemed similar to locally developed innovations.

In contrast with this generally positive atmosphere, on-site interviews revealed that staff in two R-3 projects had somewhat negative feelings about their project participation; they were aware that the project was not yet functioning smoothly or engaging their students. However, even in one of these R-3 projects, staff members believed that they had grown professionally and had learned more useful techniques for motivating students and for working with other staff members than at any other time in their educational careers.

School and district administrators were pleased with the PIP projects. In general, they felt that projects met an "educational need" in their districts. By this, school administrators generally meant that, previous to the PIP project, no special program had been available for the particular grade levels or the particular group of educationally disadvantaged students that the project included. Often, we heard statements such as, "We didn't have anything for our junior high school kids 'til now; everyone focuses on the primary grades and forgets that some kids are still behind in reading in seventh grade."

Second-Year Study (1975-76)

RMC spent the second year revising the PIPs on the basis of the first year's findings, to make them more effective, while SRI turned the focus of the study to student outcomes. In the first year, PIPs had proved extremely useful for enabling project installation, but the critical test of the replication notion underlying the original development of the PIPs was the effectiveness of the resulting projects in raising achievement. Since projects had not shown significant gains in the first year of the field test and because previous evaluations have been fairly consistently unable to find achievement gains attributable to special compensatory educational interventions, the second-year PIP study began with the expectation that the same poor tests results might reappear.

Methods

The second-year evaluation incorporated two strategies. The first strategy called for testing the PIP replication concept in its most naive form by applying the norm-referenced procedure used for selecting the original, exemplary projects. We administered the MAT (Form F, 1970) to all participating students in October and April, periods that corresponded to those times at which the group originally used for generating the MAT norms was tested. Then, as if assuming that replication of the original achievement outcomes should result merely from use of a PIP in an appropriate site, we analyzed the MAT standard scores in each site against the criteria used to declare the original projects exemplary. While acknowledging that the MAT was a different achievement test from the tests used for measuring the outcomes at some of the original projects, we found few gains meeting the criterion of one-third standard deviation[*] above the equal percentile growth expectation. None of the gains in reading met the criterion; only on some math subtests for some PIPs at some grade levels did gains meet the criterion. However, in most of the projects students had achieved the equal-percentile or normal-growth expectation. Thus, we found approximately the same results the second year as we had found the first. A substudy in which the equal percentile expectation was adjusted downward for factors associated with disadvantaged populations did little to change the overall results.

In any case, we argued that such an analysis was not particularly appropriate for an evaluation of the PIPs. We demonstrated some problems with the longitudinal validity of the MAT norms, the statistical procedures, the criteria based on the norms, and the assumptions on which the standardized, norm-referenced evaluation of PIP projects was based. These problems and the results of the adjusted equal percentile expectations are fully discussed in a Research Memorandum (Kaskowitz and Norwood 1977).

Our second, and preferred, evaluation strategy was based on the rationale that project students should be tested on what the PIPs specified was to be taught. That is, the MAT score results would be a valid indication that PIPs had failed only if we examined the various links in the chain of events that would connect a PIP with the achievement test and found reason to believe students should have shown gains.

Therefore, our field investigations of the PIPs during the second year entailed the following steps:[†]

- Define well-implemented instruction for each PIP.
- Find examples of well-implemented and poorly implemented instruction for each PIP.
- List the PIP-specified curriculum materials.
- Find the PIP-specified curriculum materials actually used in the projects.

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[*] Determined from the MAT norms.

[†] A complete description of methods and results is given in Volume II of this report (Norwood, 1977).

- Find MAT items that are sensitive to the PIP-specified curriculum materials used in the projects.
- Compare the achievement outcomes (as measured by relevant items on the MAT) under well-implemented and poorly implemented instructional conditions.

PIP Instructional Program Descriptions

In measuring installation in the first year, we had compared actual processes and accomplishments with the literal specifications in the PIPs. The standard against which the implementation of the projects was to be judged in the second year had evolved and changed by the beginning of the school year. To clarify ambiguous aspects of the instructional programs described in the PIPs and to ensure common understanding of the educational philosophies, USOE held a meeting in Washington, D.C., at the beginning of the 1975-76 school year. PIP project directors and one member of each teaching staff were brought together with project directors from the original sites. SRI staff and RMC staff members who had developed the PIPs were also present. The result was an elaboration of PIP information and clarification or slight modification of written specifications. For example, PIP specifications for the HIT instructional program included no description of the rhythmic, fast-paced interaction pattern that characterized peer tutoring in the original site. RMC staff and the project director from the original site carefully explained to the HIT field-test project staffs the manner in which instruction was conducted in the original site. Such a description became part of the elaborated "PIP specifications" against which SRI was to measure implementation.

In addition to receiving input at the Washington meeting, SRI staff specialists had themselves developed a clearer understanding of the PIP-described instructional programs since first reading the packages in the Fall of 1975. They had seen tryout staffs struggle to interpret phrases, many had visited original sites, and all had been working closely for a year with the authors of the PIPs from RMC. The internalization of the PIP information by the SRI site visitors, as well as additions and clarifications made at the Washington meeting, constituted new standards against which to judge implementation. These new standards, which went beyond the literal specifications in the PIPs and filled in some of the missing information in the packages, were based on an understanding of the educational philosophy underlying those specifications. As a guide for evaluating PIP instructional program implementation, these new standards were put into writing by the SRI site visitors.

These elaborated PIP program descriptions were organized around the operations that teachers perform (whether or not they consciously decide how they will perform them). These functions were:

- Diagnosis of the individual student's needs.

- Prescription of materials designed to meet the diagnosed need.
- Presentation of the lesson/skill.
- Guided practice; independent study.
- Assessment of progress (monitoring, testing).
- Reinforcement activities.
- Motivating techniques.

Even after the Washington meeting, certain aspects of the PIP instructional program descriptions remained either ambiguous or not specified. Moreover, because of the nature of the original programs as RMC had described them, many decisions remained to be made by the teachers, and many events were still free to vary. The following were common to five of the first six PIPs: (1) the use of ambiguous terms, such as "individualized instruction," that were not further defined and thus allowed a variety of interpretations and a wider variety of behaviors in implementation; (2) training components that outlined topics to cover, such as "integrating gaming/simulation activities," but that gave minimal descriptions of content or methods; (3) the omission of details of the instructional process--for example, conferences between teacher and students on individual story reading were encouraged in the IRIT PIP, but no recommendations were included about the nature of the questions to be addressed regarding the stories; and (4) directions that allowed teachers freedom to vary their methods or materials--for example, the direction that teachers become familiar with a wide-range of materials and choose those appropriate to each child's needs. For each PIP, we developed a display matrix on which we listed the revised descriptions. We listed, for each function that teachers had to perform, those procedures that were "specified," "not specified," "ambiguous," or "free to vary," as appropriate (see Figure 3).[*]

	PIP Specifications	Not Specified	Ambiguous	Free to Vary
Diagnosis				
Prescription				
Presentation of the lesson				
Guided practice				
Progress assessment				
Reinforcement				
Motivating techniques				

FIGURE 3 MATRIX FOR CLASSIFYING PIP FUNCTIONS

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[*] SRI's analyses of the PIP instructional programs, carried out for evaluation purposes, were shared with RMC staff who were in the process of revising the PIPs. RMC used some of the information to guide them in putting more detailed suggestions in the new PIPs.

Field Investigations

Using the appropriate descriptive matrix, SRI site visitors selected (on the basis of previous observations) those well-implemented and poorly implemented classes that would permit a contrast between extremes. This sample of classes was observed, and teachers were interviewed. Using their observation instruments and extensive interview notes, site visitors rated teachers as shown in Table 7. Ratings were based on the level of teacher implementation of PIP instructional specifications and on the degree of teacher responsiveness.

The implementation rating was based on a judgment that the teacher had internalized the educational philosophy of the PIP; that is, he/she had gone beyond following the specifications on a mechanical basis and had resolved the ambiguities and omissions in congruity with PIP specifications. Beyond the implementation rating, it seemed necessary to capture a characteristic that teachers seemed to have or to lack in their interactions with students. We rated this characteristic (i.e., responsiveness) on the basis of a teacher's ability to anticipate student needs and respond to learning needs in an appropriate and timely fashion. (Some site visitors substituted the phrase "eyes in the back of her head.")

In addition to assessing PIP implementation in terms of instructional processes, we carefully investigated the use of PIP-specified curriculum materials. To determine which of the materials listed in the PIP were actually used in instructing the students, we collected from the teachers in our observation sample the daily lesson plans for every student for the period of approximately January to April (posttest time).

Table 7

CLASSIFICATION SCHEME FOR PROJECT TEACHERS DURING OBSERVATION

Teacher's Implementation of Project	Teacher's Responsiveness		
	Good	So-So	Bad
Well implemented	1	2	3
So-so implemented	4	5	6
Poorly implemented	7	8	9

Finally, we analyzed the skills required for answering each item on the MAT correctly. Then the content of the curriculum materials used by the students in the PIP projects was analyzed to determine whether the MAT items had been "taught." That is, we sought correspondence between the skills covered by students in the PIP-specified curriculum materials used in the projects and skills covered on the MAT.

Results

Table 8 shows the results of the site visitors' ratings of the teachers. Although the classes were selected to maximize the contrast between well-implemented and poorly implemented instruction, no teachers in Catch-Up projects could be considered poorly implemented (ratings of 7, 8, or 9). Tutors in one PTR project and in two Conquest projects also implemented the project well, and no instructors could be found that rated 7, 8, or 9. By contrast, for one Conquest, one PTR, two Catch-Up, and all the R-3 projects no ratings of 1, 2, or 3 were given.

No R-3 project could be considered well implemented unless the teacher planned the curriculum lessons with other teachers around common themes, created lessons that were obviously relevant to real-life situations, developed simulations to which the students could respond, and negotiated contracts with students so that they assumed some responsibility for learning the lessons. Clearly, no teacher could attain this rating by working alone, and in none of the PIP tryout sites were teachers able in the two-year period to put together all elements of the R-3 program. Many were responsive teachers who had rapport with their students, most had carried out some of the practices and exhibited some of the R-3 educational philosophy in their teaching, and many reported that their teaching styles had changed for the better. Nevertheless, the R-3 instructional program was not well implemented at any of the four sites. In an analysis of the relation of implementation ratings to a subset of MAT scores, only the teacher responsiveness variable was consistently positively related to achievement outcomes; PIP implementation was not. The main variables manipulated by the laboratory-type PIP projects to improve achievement appear to be placing responsive teachers together with students in a well-managed project.

As a result of our investigation into the use of PIP-specified materials, we found that--except for PTR, which requires a single tutor's manual matched to the basal reader employed at the local site--the PIPs were not clear about which materials were core to the program, which were required, and which were a matter of teacher choice. Catch-Up and HIT were less ambiguous than the other PIPs, but Catch-Up, Conquest and IRIT all had enormously long lists of suggested materials.

We classified all of the materials that were listed as PIP-specified. Tabulations of those materials actually used in each project indicated that not all of the specified materials were used, that many nonspecified materials were used, and that the overlap of materials used was not

Table 8

TEACHER RATINGS, BY PROJECT
(In Numbers of Teachers)

Project	Ratings 1	2	3	4	5	6	7	8	9
Catch-Up									
Site 1					4				
Site 2				2					
Site 3	1	1							
Site 4	2								
Site 5	1				1				
Conquest									
Site 6	1	1		1					
Site 7	2				1				
Site 8*					1		1	1	2
HIT									
Site 9	1				1				1
Site 10	1	1					1	1	
IRIT									
Site 11	2			1					
Site 12	1				2				
Site 13		1			1				1
PTR									
Site 14				2	2				2
Site 15	2	1			1	2			
R-3									
Site 16				6	1				
Site 17							1	2	
Site 18				2	3				
Site 19					4	1			
Total	14	5	0	14	22	3	3	4	6

*One teacher was rated twice, she participated for half days at each of two schools.

great among sites (with the exception of HIT and PTR projects). Tabulations of most frequently used materials corresponded somewhat better to PIP specifications and overlapped somewhat more among sites with the same PIP.

Our investigation of the specified curriculum materials used in each project enabled us to offer RMC a number of specific recommendations relative to their PIP revision efforts. For example, the Hardware/Software Packet (now renamed the Materials/Equipment Catalogue) was to contain exact titles, publishers' names, and dates to prevent teachers from ordering the wrong materials. Moreover, the skill emphases of the specified materials were to be described to inform teachers of the curricular emphasis in the PIP.

In our analyses, we attempted to verify that there was reason to believe that well-implemented projects could increase MAT scores. Such verification was dependent on showing that the MAT was congruent with the curriculum specified by the PIP and used with students. From our detailed analysis of the relationship of the MAT to fourth and eighth grade curricula and a fairly gross analysis at other grades, we concluded that project materials were not especially relevant--except perhaps in first and second grades--to reading as tested by the MAT. In general, the materials used in the projects focused on decoding, phonics, and structural analysis whereas the MAT for third grade and up focused on comprehension of prose paragraphs. From a fairly gross analysis of the relevance of the tests used in the originating sites to the curricula observed, we concluded that for most PIP projects the test used to validate the original, exemplary project would have been a somewhat more relevant measure of the curricula at the field-test site. Our analysis of fourth and eighth grade curricula showed that only the MAT Math Computation subtest seemed particularly relevant to PIP objectives. In our norm-referenced results, the math scores stood out as an area of project success compared with MAT Total Reading scores; this confirms that some of what was taught was learned, and, given a relevant test, the evaluator could detect that learning had occurred. We are not surprised that scores were low in the areas not covered by the PIP because, according to our limited information, these areas were not covered by regular classroom curricula either.

In summary, with the exception of PTR, it would be surprising if the projects, however well implemented, showed remarkable gains on MAT Reading--and, since the PIP curriculum was not very different from the regular curriculum, what gains were observed might not be due to the PIP project.

III CHARACTERISTICS OF THE PIP MODEL

After two years of closely observing the use of the PIPs to implement exemplary projects in new sites, we can describe the characteristics of the ASK-PIP model of packaging and the effects of these characteristics.

Nature of the Projects Selected

Although not a feature of the packages per se, the kinds of projects on which RMC chose to base the PIPs probably contributed most to the success of the PIPs in promoting project installation. All of the PIPs except R-3 are based on so-called "pull-out" projects, that is, projects that require students to come out of their regular classrooms and go to another location for special, supplementary treatment (i.e., instruction). In all projects except R-3, the treatment was not integrated into the regular classroom but was added on to the regular program. The importance of this pull-out or add-on feature for ease of implementation is that important changes in school or district organization and administration and major changes in the regular teachers' behavior, activities or attitudes are not required.

Locating treatment in a separate place necessitates finding extra space and facilities but prevents disruption of the regular physical classroom. Since the project is an addition to the regular program, staff are selected and designated specifically for it. It is not necessary to retrain existing staff.

A second program feature that made basic retraining unnecessary for five of the six original, exemplary projects was that they were not based on innovative instructional philosophies but merely incorporated fairly common eclectic methods of teaching reading and math and primarily used available published curriculum materials. Catch-Up, Conquest, and IRIT were laboratory programs similar in type to many current Title I projects. They had no particular techniques for "individualized" and "diagnostic-prescriptive" reading instruction; rather, they relied on widely used criterion-skill-referenced series from well-known publishing companies for suggestions on skill presentation.

The exception to these rules of pull-out/add-on projects with well-known teaching practices was Project R-3. In R-3, while additional staff is required to reduce class sizes, these staff members must work closely with existing staff to plan and carry out the core program for all students. An entire grade level in the school must be grouped and scheduled and additional planning periods arranged for the instructional staff to work as a team. Games, simulations, learning contracts, and other activities must be devised to make the classroom learning experience very different from the usual.

The R-3 field-test projects, while superficially implementing Project R-3 at the level of appropriate student/teacher ratios, physical facilities, class schedules, and use of general student-involvement techniques, experienced more staff clashes and scheduling problems than did the other PIP projects at the level of classroom instruction. Moreover, at the end of two years the R-3 projects were not well implemented, as evidenced by their difficulties in rendering the coordinated curriculum, the life-experience simulations, the particular teacher-pupil relationships, and other indicators of the R-3 learning philosophy.

Because R-3 is probably more sensitive to the existing educational philosophy and the sophistication of staff at the adopting site and because R-3 requires more effort and time to implement, it is not appropriate to conclude that the PIP was responsible for the failure of R-3 project implementation. Although the sample of cases did not form a large enough base for statistical analyses, we believe that the pull-out and add-on aspect of PTR, IRIT, HIT, Conquest, and Catch-Up and their curricular philosophies (which allowed teachers to readily grasp and incorporate the techniques) were characteristics making faithful installation possible. It seems unlikely that the communication mechanism made R-3 project installation fail; the Rand study of change agent programs (Berman and McLaughlin, 1975) as well as other literature on innovation and organizational change also indicate that projects requiring the least basic change on the part of the LEA are easiest to implement via other mechanisms.

In addition, because five of the projects chosen for packaging were like modules added to existing LEA programs with little organizational change, it was easier to write "how to" information about them. The add-on characteristic increased the likelihood that information in written or packaged form without much special "tailoring" or further communication would be sufficient for the user, even for users with somewhat diverse existing situations. It would appear that "how to" specifications can be written more easily to create an entirely new program than to integrate a new program into an existing program. Writing instructions on integrating a program with another, requires more information about the special situation of the intended audience and the kinds of changes that will be necessary. Prepackaged instructions cannot anticipate all circumstances that need to be adjusted, adjusted to, modified, or replaced in each site to yield a project like the original.

Selection/Adoption Assumptions

Nature of the Target Audience

As RMC anticipated by stating their assumption that PIPs must be placed in sites that were similar to the original sites, packaged instructions can be made appropriate only for audiences with a fairly limited range of variation. In preparing a package, one must make assumptions about the motives of the potential recipient, the resources that are available or can be acquired by the recipient, and the staff skills and level of understanding regarding current educational usage (e.g., the meaning of words like "diagnostic-prescriptive" instructional practices) in the recipient's site.

The "limited range of variation" is relative, of course, and interacts with the nature of the program being disseminated. For example, in the field test, given that all PIP recipients were public school districts* and given that almost every school district in the United States is acquainted with compensatory education, the field-test sites for Catch-Up, Conquest, PTR, HIT, and IRIT probably represent as uniform an audience as could be expected for project packages. This is true even though the recipients ranged from poor, southern, rural county school districts with over 90% minority enrollment to large, predominantly white, city school districts. Five of the PIPs communicated the necessary "how to" information to enable diverse sites to install the programs to the level at which they were described.

The audience for the R-3 PIP was no more diverse, and yet because of the nature of the program described in this PIP it appeared that several kinds of R-3 packages, each with a different set of assumptions about the audience, would have been necessary to meet the information needs of even the districts participating in the field test. The whole notion of a nontraditional open classroom program was foreign in one site; staff there had no conception of how to plan a curriculum as a team, how to create instructional games, or how to turn subject matter into real-life simulations. Staff at another site were familiar with team teaching and curriculum innovation but could not implement R-3 because of the nonsupportive atmosphere, the union contract and the organizational arrangements existing in their district.

Matching Contextual Features of the Original Project Site

The original ASK-PIP model assumed that, in order for school districts to implement the PIP specifications faithfully, they would have to be quite similar to the original district. While context-matching was assumed necessary for project replication, it was not clear on what dimensions it was necessary. The prototype ASK merely described many contextual features such as socioeconomic and ethnic mix of the original district's populations, size of the community, and the like.

As has been mentioned, the LEAs in which most PIP projects were to be implemented were usually different along a multitude of dimensions from the LEAs in which the original effective program had been developed. Some districts participating in the field test were unable to meet certain PIP specifications because of such demographic differences. The school in one attendance area outside of a small midwestern town for example, was unable to follow PIP instructions to find teachers who would work only half-time in the mornings (and who presumably would, as teachers did in the original site, spend additional time in the afternoons preparing for the following day). Thus, teachers in the field-test site worked a half day in Catch-Up and a half day at another job. No data exist to tell us whether or not this nonreplication due to contextual differences was significant in terms of effect on student achievement.

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*Rather than, say, day care centers, church-sponsored preschools, or public and private nursery schools, as would be the case in disseminating an educational program for four-year-olds.

Other mismatches occurred when the district administrative organization in the field-test site made it awkward to implement particular budget management procedures or particular role hierarchies described in the PIP. However, from a perspective of the entire two-year field test, it appears that the impact of such administrative difficulties in project installation was not significant in terms of whether or not the project as a whole was installed. This study could not determine whether such difficulties stemming from contextual mismatches were too remote from the students to have consistent effects on their achievement. In general, then, we concluded that the PIP projects could be faithfully installed in somewhat more varied LEA contexts than RMC had originally assumed.

One aspect of the site that would be expected to have district impact on the achievement outcomes of the projects, however, is the match of the new group of students with the original student population. It may or may not be important that students come from farms or urban locations, but a reasonable guess is that certain curricular variables interact with some student background variables to render projects less effective. RMC staff who had been to both the original HIT program and and to one of the HIT field-test sites noted informally that curriculum materials that seemed appropriate at the exemplary site for assisting bright black students to compensate for nonstandard English dialect problems did not seem appropriate for the reading problems of the low-achieving students in a small city with a fairly homogeneous white population. The curriculum that was appropriate for an ethnically mixed group of children, some of whom had native languages other than English (as in the original, Newport-Mesa Catch-Up project), seemed less effective with a group of rural white children who were matched with the original group only roughly in terms of low early-achievement test performance.

It was not until after several kinds of sites tried to replicate each of the six programs that some features of the program settings appeared to be more significant for installation than others; these features are reflected in the revised ASK for the six projects. For example, it was quite clear that Catch-Up could not be well implemented unless experienced, enthusiastic reading specialists were available to staff the lab project. The ASK contains a warning to potential adopter sites about this hazard to implementation. Other features, such as those described above that caused problems with implementation, are now incorporated in decision-making worksheets for potential adopters. Many trials in the field would be necessary for determining in detail the contextual features important for ease and fidelity of project installation, and many experiments would be necessary to connect each of these features with effects on student achievement outcomes. However, the new ASK-PIP mechanism clearly warns of those obstacles to smooth implementation that were detected in the first 19 tryout projects.

Motivation

An assumption inherent in the original model of dissemination, on which the first PIPs were based, was that some LEAs were eager to replace their less effective compensatory education projects with projects that were effective in raising reading and math achievement. Sufficient motivation to adopt a more effective program was assumed to exist.

As previously discussed, the Title III grant funds enabling districts to reach a previously unserved group were the motivating factor for most field-test sites. LEA personnel were not motivated by the concept that replication of the proven program described in the PIP would ensure similar success. The idea that they need only replicate the originally successful project exactly as described in order to obtain significant achievement gains was considered rather absurd by most LEAs applying for PIPs. None of the field-test sites replaced any existing programs with the PIP projects.

Because of the Title III grants, the PIP field test was not particularly appropriate for studying motives to adopt PIP projects. However, through interviews we found that PIPs had considerably more appeal than we had expected. Project directors found the original packages quite appealing as handy tools for installing the sort of project the district was already planning to carry out. District administrators found them appealing as aids in organizing projects and structuring staff efforts. Several field-test district administrators believe PIPs useful for providing the organizing strategy both for experienced project directors who are overcommitted and are handling several projects and for project directors who are competent and enthusiastic, but inexperienced. The former benefit from PIPs' clearly stated resource requirements and handy calendar reminders; the latter can depend as well on PIPs' suggestions for accomplishing each step and on their systematic scheduling of activities.

Since five of the six PIP projects are eligible for funding under ESEA Title I, LEAs whose current Title I projects are not considered strong by their state education agencies might see the adoption of a PIP project as a solution to their problems. In addition, as PIPs receive more state and national recognition, LEAs may find that the adoption via PIPs of an exemplary project, developed elsewhere, will put them in a more favorable position to receive funds under other government programs (e.g., Title IV of the Education Amendments of 1974).

Management Information

The management orientation of the PIPs is their most successful feature and is a unique contribution to the packaging of educational programs. While the first six PIPs needed much revision, the principle of a management package that heavily emphasizes the start-up process was extremely successful in enabling project installation. Rather than merely describing the several-years-long evolutionary development of a project in its original site, RMC abstracted the relevant steps, arranged them in logical sequence, and specified the tasks necessary for mobilizing appropriate resources for the instructional program. In the field-test sites, PIPs enabled project directors to get a project into operation in a few weeks. This efficiency in project installation and the visibility of the project in the new site will undoubtedly appeal to potential adopters.

The original PIP management materials, however, were not sufficient to enable project directors to provide adequate preprogram training for teachers. The Classroom Management Directory and the incomplete and at times frustratingly confusing Hardware/Software Packet were the major sources of information for teachers about the instructional program for the children. Except for PTR, they did not give teachers and aides sufficient information or support in carrying out instruction. It became clear during the operations stage, and should have been clear from observations of the inadequate preprogram training sessions and the desire of staff to contact originating sites, that the PIPs lacked information about teaching-learning philosophies, actual curriculum emphases, and instructional processes. The teaching staffs at the field-test sites felt that the classroom management orientation to the instructional program was not adequate for them to replicate the original curriculum and teaching-learning episodes. To compensate for problems encountered in the field-test sites, the new PIPs incorporate three major revisions:

- A separate in-service Training Manual for the project director. This manual goes considerably beyond the suggestions for topics and agenda in the original PIPs. It includes suggestions for role playing, review of record-keeping practices, and suggestions for obtaining consultants in certain areas.
- An Individual Classroom Management Directory for each teacher or classroom unit. These directories now include instructional program rationale and examples of teaching-learning episodes.
- A thoroughly researched and verified list of materials in the Materials and Equipment Catalogue (formerly called Hardware/Software Packet) with comments, reviews, and suggestions by users.

Almost all implementation problems caused by confusing information in the packages themselves should be adequately remedied by the revised

PIPs. Thus, we can be fairly confident that future PIP users will be able, with much less difficulty than the field-test sites, to install projects that resemble the originals in terms of general configuration, staffing patterns, facilities, and resources. Nevertheless, except for PTR and to some extent HIT, the packages do not prescribe a specific curriculum, and thus instructional programs can neither be expected to be replicates of the originals nor to produce any particular achievements. The information in the original PIPs, with their management emphasis, was sufficient neither to permit implementation of the original instructional program in detail nor to permit implementation of an instructional program that would be certainly effective for the students in the new site. We do not have the information necessary for attributing significant increases in student achievement gains to the use of any of the original PIPs.

Staff Selection

Consistent with the general philosophy of PIPs as a management package is the principle of staff selection. That is, to create an effective project at the new site, one must select the kind of excellent project director and hire the kinds of teachers that the original project had. The PIPs were not training devices; they were written to be used by already qualified staff. Use of the PIP could not be expected to make a mediocre staff into a good one.

The rationale for the staff selection principle is that it would be foolish to assume that written information could make basic changes in personal motivation and style of behavior within a school year. Although the original PIPs were not particuarly clear about the exact characteristics on which staff should be selected, it was nevertheless hoped that personnel close to the originals in type would be selected on the basis of the descriptions of their roles in the project. Presumably, the director would be able to select a teaching staff with the appropriate motivation, style, and skills and to assemble the other resources required for creating a close copy of the original instructional program.

Although every PIP assumed an experienced and competent project director, each PIP specified teaching staff of a different calibre. Catch-Up and IRIT required the most highly qualified reading specialists who could bring their own methods and curricular preferences to the project, while Conquest assumed that the project director would provide in-service training and continuous supervision to regular elementary teachers. PTR tutors were not expected to have had any previous teaching experience. The project director, a tutorial supervisor, and supervising clinicians were expected to refine teachers' existing skills for the new project through some in-service training. Because the instructional techniques for all but R-3 were not basically unfamiliar, teachers could presumably be oriented to the specified practices by the experienced personnel on site.

The PIP's staff selection principle was practical and quite successful for getting exemplary projects to new sites efficiently by means of written materials. An unexpected event was the success of project installation via PIPs in sites where the project directors, though willing and able, did not have previous experience in leading such efforts.

One can imagine a package quite different from PIPs. A more training-oriented package might incorporate "teaching methods" textbooks, teacher training videotapes, and other materials to instruct staff in a particular teaching philosophy and to raise their skills in teaching to a certain level. However, for one of PIPs' main purposes--rapid project installation--the staff selection principle makes sense. That is, to write a package aimed at rapid implementation of certain projects, one need only pick projects based on common instructional techniques and write information that assumes a certain level of skill in the recipients. To write a package aimed at causing achievement gains for students is less simple. From this point of view, the PIPs beg the question of what staff attitudes, skills, styles, and motivation are required. Because the interactions among teacher characteristics/curriculum materials/student characteristics that lead to effective learning are not known, it is not possible to prepare a package that will lead certainly to increased achievement. We believe that an analysis of each exemplary program in terms of the kind of teachers that were most successful and the kinds of methods and materials that were most often associated with gains would have increased PIP's effectiveness. Given that, however, the best solution for guiding staff selection by means of packaged instructions would still be to describe what kind of performance will be required and then allow the project director to select the staff on that basis. The PIP revisions still incorporate this staff selection principle.

Autonomy

Several categories of requests for assistance and sources of information emerged from our review of the contact reports:

(1) Inquiries about PIP delivery or about the Title III grant budget, federal guidelines, USOE requirements, and the like. These inquiries were mostly to USOE and state officials; several calls were often necessary before an answer was obtained. RMC was called by some sites for PIP delivery times.

(2) Inquiries about evaluation procedures. These included phone calls to and from SRI (and sometimes USOE and RMC staff) for coordination of the local project plans for student selection and evaluation with the needs of the national evaluation.

(3) PIP-recommended communications with publishers, manufacturers of instructional equipment, local evaluators, and training consultants.

(4) Inquiries about problems, clarification of PIP specifications, desires for adapatation of project to local conditions, and the like.

The phrases "autonomy" and "technical assistance" were meant to pertain only to this last kind of assistance request. Autonomy meant that projects should require little "how to" assistance beyond that provided in the PIP packages. The first two kinds of assistance described above were not anticipated (and the implications of the second can be ignored, assuming that future PIP project evaluations will be local). Yet, project directors had to know whether they would be required to submit progress reports to the state Title III coordinator, whether they needed to follow through on identifying their proposed control group, and whether they could transfer funds from staff categories to buy additional materials that were specified in the PIPs but not anticipated in their grant budgets.

The third kind, PIP-recommended assistance, can be considered as normal project business, and thus does not infringe on the concept of autonomy. Training consultants were rarely obtained from outside the district, and the training services of publisher's sales representatives incurred no costs beyond the costs of the materials.

"How to" technical assistance for implementing the projects was solicited from RMC, from federal program officers and, less and less reluctantly during the school year, from project directors at the exemplary program sites. Quite a few contacts were initiated by PIP field-test project staff because of the ambiguities, contradictions, and mistakes in the PIPs, the confusing rules-of-the-game imposed by the demand for "exact replication" (according to those ambiguous PIPs), and the difficulty of knowing who could give a definite answer to any particular question or definite "approval" to a proposed adaptation.

In all sites other than those attempting to implement R-3, few contacts with the original sites were necessary for understanding how to install the specified project. The R-3 package was the one that required the most supplementary "how to" assistance. It was not only the most complicated program, requiring the most staff coordination, but it was also subject to certain built-in requirements for assistance because the curriculum materials were neither commercially available nor included in the package. They had to be obtained from the original site. In addition, when the R-3 sites contacted outside consultants to provide in-service training (e.g., on gaming/simulation techniques), the consultants were unsatisfactory because their concepts and advice were not congruent with the PIP.

The revisions to the other five PIPs should reduce the already small amount of supplementary "how to" assistance that seemed necessary during the field test. Thus, for purposes of project implementation, the PIPs will probably be as autonomous as was originally intended. We do not suggest, however, that district staff will not seek or use assistance in any future use of PIPs. The current implementation was accomplished under a grant agreement with the government in which implementing the project as specified, without outside assistance if possible, was a condition the district staffs accepted. They did not call on the original developer or staffs at other field-test sites as much as they would have without the governmental constraint.

From the nature of the phone calls and visits between sites in the field test, we speculate that, in future sites receiving the PIP without any funds or regulations attached, the first response of the staff will be to telephone the original tryout site, or arrange to see the program in operation at another site. Because packages can be designed so that projects can be implemented in a new site with little "how to" assistance and because adopters have enough desire to contact original or other PIP sites on their own, it would seem cost-effective for the government not to pay for technical assistance for PIP project implementation. It would be sufficient merely not to place any constraints on such assistance.

The amount of assistance necessary for supplementing the PIPs seems to depend on the nature of the project (the less innovative and the less its implementation disturbs the ongoing program, the less assistance is necessary) and on the intended strategy for disseminating the packages. The dissemination strategy in the field test entailed considerable communication with the Title III program office and other parties connected with the PIP grants. Contact reports during the first year clearly showed that the need to request assistance was greatly stimulated by the grant requirements that sites follow the PIP specifications to the letter and replicate the original program exactly. Had the field-test sites been under no constraint to replicate, we do not know how closely they would have adhered to PIP specifications or how they would have fared, but it seems fairly certain that they would not have had to "clear" all modifications, adaptations, or deviations with several other parties. An improved PIP, in addition to the encouragement for field-test staff to solve problems in their own sites, would have greatly reduced administrative contact with individuals outside the district.

Contacts outside of the district will, of course, always be needed, as determined by the dissemination or delivery strategy designed to promote the use of the PIPs; during the selection/adoption stage, there will be communication with the dissemination agent and, if different, the funding agent. However, under the assumption that PIPs will be available with fewer constraints from the funding source in the future, PIPs should have more autonomy from requests for permission during the start-up and operation stages.

Other Events and Effects Requiring Consideration

OPBE's original request for proposals to study the PIPs required the evaluation to determine the "relevant effects, intended and unintended of the 'packaged' educational approaches including attitudes toward use of the PIP" (RFP 74-40, 1974). This requirement was included, in part, to ensure that any ill effects of the PIPs or the tryout projects based on them would be detected and, in future attempts to disseminate PIPs, could be taken as cautions to be weighed against the assumed achievement benefits.

Student and Staff Attitudes

It was the intent of our investigations of student attitudes, community reaction, and administrative and instructional staff attitudes to find out whether PIP projects had any unwanted side effects or negative impacts on participants or other constituents.

At the end of the first year, we reported not only that there were few detectable negative effects, but that in fact the school administrators, the informed parents, the project instructional staffs, the regular classroom teachers, and the participating students were quite positive and in many cases enthusiastic about the projects.

Again in the second year, we measured participant attitudes in order to check for and warn USOE against any negative impacts of the PIP projects. In Appendix A, we present our findings from the student attitude questionnaires and self-report inventories. In Appendix B, we present the perceptions of instructional staff (project participants and nonparticipants) about changes in student learning and student attitudes as a result of participation in the PIP project. In addition, we present expressed likes and dislikes of instructional staff regarding the instructional program described in the PIP, their interest in seeing the project continue in the district, and their plans for personal use of PIP instructional techniques.

Except for the R-3 projects in general and a few specific instances in one of the Catch-Up projects, no negative trends were detected. Student attitudes toward PIP project participation were generally positive, and older students grew in the degree to which they accepted responsibility for their own intellectual achievement.

As during the first year of project implementation, teachers gave overwhelmingly positive responses on the questionnaire, and most of the problems detected during the first year had evidently become less troublesome.

District administrators' questionnaires also reflected positive feelings toward the PIP projects. It should be noted, however, that in the second year most items on these questionnaires were addressed to project continuation efforts in the district.

Continuation

Continuation of PIP tryout projects emerged as an issue worthy of attention during the conference held in Washington, D.C., in early

September 1975. The field-test project staffs were realizing that their Title III grants were to continue only through the school year. OPBE realized that attempts to continue the projects would be an indicator of project success as viewed locally and thus would be evidence of the PIPs' feasibility as a dissemination mechanism. It was here that the SRI/RMC team incorporated in their evaluation design the investigation and documentation of continuation efforts (or lack thereof) and some analyses of findings. The purpose was to find out whether PIP-induced projects would become self-sustaining and to get clues about LEA motivation and support-seeking strategies--all helpful information for guiding USOE in launching the revised PIPs.

RMC was particularly interested in information gathered on funds-seeking efforts in order to prepare a guide for future PIP users and for PIP dissemination agents. RMC was separately contracted to create a new ASK package with supplementary materials for agents who might act as brokers for PIPs. RMC also used information from these investigations to create a new section in the revised PIPs about maintenance of project funding.

During the second year of the PIP field study, most of the PIP project directors put considerable effort into finding appropriate funding sources, making applications for funds at the local, state, and federal levels, and advertising the success and effectiveness of their projects to parent groups, community groups, school boards, and any other groups from whom they could obtain support for continuation.

By the end of the second school year, continuation efforts had resulted in more than one-half of the tryout projects (11 of the 19) having secured financial support for continuation from funds either allocated by the school district or granted by the state (primarily from federal sources) on the basis of proposals.

According to information obtained by site visitors who interviewed directors and other administrators, the status of the continuation of the 19 projects falls into several categories. Some projects will continue under new funding with the essence of the PIP-induced instructional and administrative structure still intact; other projects will continue under new funding with the essence of the instructional and administrative structure significantly modified. Finally, some projects could not or did not attempt to obtain new funding and will not continue as projects. Even in some of the latter projects, teacher responses on questionnaires and interviews indicated that there will be carry-over influences in classrooms within the district. Table 9 shows the status of each of the 19 projects with regard to continuation.

Site visitor reports showed three characteristics common to the continuing projects:

- The projects have a close link with a person in the district administration who is actively supportive of the project and is responsible either for getting funds or for allocating funds.

Table 9

PROJECT CONTINUATION STATUS

PIP	Continuing		Not Continuing
	Still Implementing PIP Specifications	Significantly Modifying PIP Specifications	
Catch-Up		Galax Wayne City Bloomington Providence Forge	Brookport
Conquest		Benton Harbor	Cleveland Gloversville
HIT	Olean[*] Lexington		
IRIT	Bloomington	Oklahoma City	Schenectady
PTR	Dallas Canton		
R-3			Charlotte Schenectady Lorain Lake Village

[*] Mathematics only.

- The projects have become accepted by the school and parent community so that they are politically difficult to discontinue, or they address themselves to a high priority educational objective to which the school district has publicly committed itself.
- Most of the instructional staff are enthusiastic about the project and feel that the educational approach benefits their students.

The PTR project in Dallas was a special case. The district had decided that its existing program was equally effective and had nearly decided to cancel PTR. Supporters of the project were not quite influential enough to get PTR funded. However, its continuation was precipitated by a court order forcing a change in school district priorities and bringing the tutoring program to the top of the list of school district commitments.

Replication

In the first year of the evaluation we found that the field-test projects had been installed with fidelity to the PIPs on the gross resource mix specified by the packages. We called this "installation" of the project and claimed that the management aspects of the projects (including classroom management, with several exceptions) were implemented. By the second year of the evaluation, in more than half of the projects the instructional program had been well implemented by teachers who understood the educational philosophy and could demonstrate and explain the instructional techniques.* These new projects had moved from a level of adoption that Gene Hall (1973) has designated as "mechanical" to a level that he has designated as "integrated."

It was when people on the new site internalized the spirit of the program and made the educational philosophy their own that we could call the project truly implemented. On the other hand, as such assimilation occurs, project staff tend to operate independently on the basis of the program philosophy, and variations occur. Although these variations are consistent with the intent of the original program, it becomes more and more unlikely that any new site will be using exactly the same style as that used in the original--and, except perhaps in a programmed tutoring project (like PTR), it becomes unlikely that any two teachers will look like replicates.

The central concept underlying the original development of the PIPs was the concept of replication. In the second-year, the nature of our evaluation of replication was occasioned by the version of the PIP concept being field tested. We found that the PIPs designed to fulfill USOE's original replication concept prescribed the preconditions necessary for appropriate instructional activities. The original PIPs (except PTR) assumed that new project staff would act to increase achievement, given all these preconditions. Our hypothesis was that a package which would have any chance of "guaranteeing" particular student outcomes would have to prescribe the proximal curricular events that could cause those outcomes. We showed that the first PIPs (with the exception of PTR) are not prescriptive packages that determine in detail what a teacher must do vis-a-vis each student and what curriculum materials are appropriate for developing the skills that will raise each student's achievement score. Without a prescription that relates instructional materials and activities to particular outcomes we do not feel that anyone can claim (realistically) that PIPs (or any other communication device) will promote educationally significant achievement gains.

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*The exceptions were one PTR and one Conquest project, two Catch-Up projects, and all R-3 projects.

Ever since the idea of self-contained packages was conceived, it has not been clear what the term "replication" means at various times and to various people, nor has it been clear whether "replication" applies primarily to a copy of the original project or to a recurrence of the outcomes. This latter confusion no doubt resulted from the assumption that, if the essential features of the project were duplicated, the same results would automatically occur. If all details were indeed replicated, this would be necessarily so. However, since exact duplication of all features is not a reasonable expectation, we suggest that the term "replication" be dropped from the dissemination vocabulary.* For implementation of program features, we should refer instead to "faithful utilization of the educational model" or to "project implementation with fidelity to the original." The term "replication" is even more unsuitable for outcomes, and, if necessary, we should refer instead to "student achievement gains of a similar skill profile," or the like.

The developers of the PIPs had three tasks: select the projects to be packaged, analyze each project to determine which activities and events made it effective, and find the means by which to present a new site with the information necessary to recreate the effective program. While the original PIPs needed much improvement in their presentations, they did not fail as communication devices. In fact, they succeeded beyond the expectations of many educators.

However, all that the medium of communication can do, no matter how well the message is expressed or formatted, is to carry the message from one place to another, one party to another. If the already somewhat favorably predisposed parties on the receiving end become informed and more highly motivated through the device of the written materials, then the package is a success--if, of course, the project is recreated at the level of detail packaged. In these terms, the PIPs were a success.

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*It is to be regretted that a new orgainzational unit in USOE's Bureau of Elementary and Secondary Education has been named the Division of Educational Replication, Division of Education Project Diffusion or a similar title would describe the activities of this unit just as well.

PIPs did fail to fulfill the expectation that, if specifications were adhered to, significant student achievement gains would result. Our examination of the PIP contents showed this to have been an unrealistic expectation.

Any blame for the failure of PIPs to yield significant achievement effects should not be laid on the fact that the information was packaged. Either the original program selected was not dramatically successful, or the analysis of the program did not distinguish for packaging those elements of the program that caused achievement gains in the skill areas tested. Our second-year results indicated that the latter explanation is the more potent and the more remediable. The fact that the original programs did not show phenomenal achievement gains is also true, but there are few compensatory education projects that do.

The major participants in the development of PIPs hoped that the essential features of the original project would be present in the new project--that is, enough of the elements that caused the original project to produce achievement gains would arise through use of the PIPs and would interact effectively at the new site to produce similar, measurable results. If we had measured the field-test projects on the same achievement tests that were used to measure the original projects, we probably would have found better results than we did. However, we could not expect dramatic improvement, since the varied curricula used in the projects had so little in common even with the norm-referenced tests used at the original sites.* Unfortunately neither our norm-referenced analysis nor our curriculum-based analysis permitted a definitive answer about effects PIP projects had on the participating students.

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*We believe that HIT projects might be an exception to this expectation, since the Wide Range Achievement Test has items very similar to the exercises presented in the recommended HIT curriculum materials.

IV IMPLICATIONS FOR PIPS AND PACKAGING IN FEDERAL EDUCATION DIFFUSION STRATEGIES

When the idea of PIPs was conceived, the hope was that these "how to" packages would be a much more cost-effective way to diffuse exemplary projects than people-to-people networks involving travel, technical assistance, and training expenses. And when USOE commissioned the evaluation of the PIPs in their first field test, the policy options appeared to be either to drop PIPs if they did not produce educationally significant achievement gains or to package other exemplary projects approved by the Joint Dissemination Review Panel (JDRP) if PIPs did lead to educationally significant gains.

As is usually the case during the course of an evaluation, the interim findings as well as events related to the object of the evaluation changed the perceptions of the original questions and changed the policy perspectives. In this chapter, we examine these changed perspectives and their implications for USOE's (1) continuing support of these PIPs (2) packaging of other projects according to principles and assumptions of the PIP model, and (3) general support of packaging for dissemination. This discussion of policy goes beyond the results of the two-year evaluation; it relies on our informal observations and conversations with USOE and NIE staff, other evaluation and diffusion contractors and participants in the PIP field test.

Criterion for Success Required

Before making any recommendations about USOE's continued support of PIPs, we must raise a prior issue. In order to know whether to disseminate projects by means of a package or by any other means and, in fact, to know how best to conduct any project diffusion activities, USOE must decide on the primary purpose of those activities. What criterion will USOE use to judge the success of its diffusion activities?

The evaluation of PIPs has exposed a range of possible criteria of effectiveness and one can imagine others.

(1) Effectiveness in communicating information about a project sufficient for its installation and implementation with reasonable fidelity.

(2) Improvements in project management, teaching skills, and classroom management techniques, as well as a sense of pride and accomplishment on the part of participating staff, locally perceived growth in students' achievement attributed to project participation, and supporting attitudes and actions on the part of parents.

(3) Educationally significant student growth in academic skill areas which the project emphasizes.

(4) Student gains of at least one-third standard deviation on norm-referenced tests of reading (and mathematics as appropriate).

SRI's evaluation showed that (4) above was not attained in the original PIP projects and it provided evidence that a norm-referenced criterion on existing standardized tests would not be meaningful for any projects being disseminated. Thus we would recommend against USOE using national, norm-referenced test performance criteria as a measure of success. In addition, we believe that if USOE continues to maintain a criterion of achievement for disadvantaged students of, for example, their being able to read, comprehend and answer questions on a prose paragraph by the time they are 9 years of age, then few if any problems or practices currently being diffused would be found effective. While this criterion is sensible and represents what most people mean by the ability to read, few if any programs or practices for disadvantaged children currently being diffused could meet a criterion as stringent as this. Logically then, USOE would have to discontinue further diffusion efforts.

It may be that USOE is willing to accapt (3) above as a satisfactory criterion of effectiveness. SRI's evaluation did not provide evidence that it was attained in the PIP field-test projects; we would recommend that AIR's study of the revised PIPs include an investigation of student achievement on skills addressed by PIP curricula. In general, outcomes that could actually be expected to occur in sites implementing an adopted project could be determined, then future adopters could be presented with more information about variations and more realistic expectations for success in their site.*

USOE may have begun to consider criterion (1) or various parts of (2) sufficient, as some groups within the NIE dissemination program do. Currently, it appears that other diffusion efforts such as the National

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*It has been suggested by some NIE staff that an ongoing JDRP-type review would be desirable. That is, while the projects selected for packaging as PIPs or for dissemination by any means may have proved effective on certain criteria in their original site, the projects as implemented in new sites may have different effects and these could be reviewed, certified, and described for future adopters.

Diffusion Network (NDN)* will be judged a success on the basis of adoptions with fidelity to the original projects. Since USOE does not control education at the local level, it is worth considering that the only realistic measure of the success of any diffusion activity by the federal government ought to be adoption of the project and satisfaction of the users' criteria.

The nature of a diffusion strategy is dependent upon the evaluation criterion. If USOE sticks to the most stringent criteria by which projects that have been adopted must yield achievement gains of a certain kind and magnitude on a standardized test, then only a diffusion system that controls the placement of projects and assists and monitors the installation and implementation of the projects seems likely to achieve that success at all. If on the other hand, USOE is developing and disseminating projects to provide LEAs with information on educational practices that the LEAs can adopt as they see fit, then USOE could issue awareness pamphlets describing available projects and support demonstration, packaging and outreach activities.

Because different criteria of effectiveness will affect the manner in which creating awareness, linking adopters with appropriate projects, packaging, providing assistance and the like are done, they will affect the costs of diffusion dramatically. If the effectiveness were to be judged in terms of uniform student achievement gains from projects in their new sites, USOE would be obliged to invest a great deal more in an attempt to insure appropriate control of the matchmaking between project and adopter and to monitor implementation of the events most likely to be responsible for the desired outcomes.

Should USOE Continue Supporting the Original PIPs?

Arguments for Continuation

At the time USOE let the evaluation contract, they expected the PIPs to yield projects that were effective in terms of the one-third standard deviation criterion of effectiveness on a norm-referenced test. Since that time, several factors emerged that influenced USOE to continue supporting PIPs in spite of the negative findings (in the projects spawned by PIPs) on the original criterion of effectiveness.

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*As priority items Under Section 306, Title III of the Elementary and Secondary Education Act of 1965, USOE awarded three kinds of grants to LEAs in 1974: grants for project developers to engage in outreach activities; grants for facilitators in a number of states to promote adoption of the developers' projects by LEAs; and grants for adoption and tryout of a PIP. Grantees of the first two types (developers and facilitators), with support from USOE, formed the National Diffusion Network.

Quite early in the field test it appeared that PIPs were successfully communicating the information necessary for staff to install the projects in the new sites. By the end of the first tryout year, PIPs seemed to be "working" well enough that USOE decided to invest in their revision and also to let a contract for development of more PIPs. The first six PIPs were developed, field tested, evaluated and revised as described in this report. While the original PIPs were being evaluated, AIR and CEMREL, Inc., were requested to identify a dozen new exemplary projects in bilingual and compensatory education respectively. When only ten such programs could be identified, USOE supported CEMREL, Inc., for the development of four bilingual PIPs and six compensatory education PIPs based on them. Investments in the development, evaluation, and revision of the first six PIPs (not including the field test costs), as well as the development of the second set of six compensatory education and four bilingual education PIPs, amount to almost $3 million. USOE has invested a great deal to perfect one model of packaging and to produce finished workable versions of it.

As a dissemination alternative that was funded at the same time as the first developer/demonstrators (DDs) and state facilitators in the NDN, PIPs became part of the federal dissemination scene. PIPs began to be viewed in the same light and judged by the same standards as other federal dissemination efforts. Because project adoptions obtained through the devices of the NDN were not judged for success in terms of student outcomes, it seemed inconsistent to judge only the PIPs in terms of the ultimate criterion--student outcomes. Although it already appeared that PIP projects would not reach the norm-referenced (1/3 SD) criterion, they had proved themselves to be good "project replication" devices. To discontinue support for PIPs would be inconsistent with current justifications for USOE's other dissemination efforts and for those of NIE.

Our answer to the question: "Should USOE continue supporting the original PIPs?" is "Yes." Given that the federal education agencies have assumed a role in diffusing exemplary projects and practices and that PIPs have enabled new sites to install projects developed elsewhere, we would argue that USOE is justified in continuing to support the PIPs that have already been developed on the following grounds:

- Much has been invested in testing and perfecting the packages, so that they are exemplary versions of one particular model of packaging that seems to introduce efficiencies in the implementation process.

- These PIPs seem to be as effective as other communication devices; projects were implemented with fidelity in a brief period of time.

- The majority of educators who tested PIPs felt that they were useful and that implementing a project by means of a PIP rather than through assistance and training from another site had given local staff a greater sense of pride, responsibility, and ownership in the project.

- The majority of educators who tested PIPs felt that they were useful and that implementing a project by means of a PIP with only a minimal amount of assistance from another site gave local staff a greater sense of pride, responsibility, and ownership in the project than implementing by means of considerable assistance and training from outsiders would have permitted.
- Educators who used the PIPs felt they were effective for installing projects that advanced student achievement. SRI's evaluation did not contradict this or reveal a no-achievement-gain situation. It seemed possible that PIP projects had positive, educationally significant effects (greater than those that would have been obtained in the absence of PIPs) on those skills and attitudes covered by the curriculum but not measured by the tests used.

Improved Dissemination Strategy Required

It is quite clear that PIPs are not a dissemination strategy. In fact, PIPs, like other information (either written, in audiovisual form or residing within an individual), need to be disseminated. Some have argued that the PIP concept included a dissemination device in the form of ASK materials, designed for creating awareness and for facilitating adoption decisions in recipient LEAs. Although AIR is still studying the role of the ASK which contains information sequenced according to the level of awareness and the degree of commitment of the recipient, we know that the ASK requires a dissemination mechanism, too, and that the individual or agency proffering the information is a powerful influence on the appropriate use of ASK and PIPs (Emrick, 1977; Campeau, 1977). If USOE does continue supporting the current PIPs, a more appropriate system than now exists for their dissemination to LEAs who could benefit from these already-packaged projects should be developed.

To diffuse PIP projects, ASK and PIP materials have thus far been disseminated in several ways, none of which is intended as the eventual dissemination strategy. During the field test, PIP adoption grants were offered through an announcement in the Federal Register. OPBE staff, Title III program officers and RMC, the PIPs' developer, played various roles in getting the adopter LEAs and the packages together. Then the LEA staffs spent a good deal of their time during installation trying to deal with the various parties in this diffusion structure, seeking information about their obligations to the funding agency, trying to clarify the packaged information and the like.

For the 1976-77 school year the ASK was available in limited quantity to state facilitators in the NDN and staff of the Dissemination and Utilization Branch in USOE. The revised PIPs were not available until later and the dissemination activities, such as they were, resulted in a few adoptions. AIR is studying the projects resulting from this haphazard dissemination process and also evaluating the processes of dissemination used by eight now-specifically-funded PIP Diffusion Contractors who are aiming to get the revised PIPs adopted by LEAs for project installation during the 1977-78 school year.

Currently, the next step appears to be that the facilitators in the reviving National Diffusion Network (NDN) will be requested, by the terms of their project grants, to serve as agents for PIP dissemination in addition to serving in their previous role as agents for connecting developer-demonstrators with LEAs interested in adopting projects.

Using the NDN as a vehicle does not resolve all the issues involved in designing a dissemination strategy for PIPs however. USOE should glean answers to some of the following questions from AIR's study and use them to determine specific roles for the agents designated to carry out PIP diffusion.

- Who is to serve the "sales" function and the "gatekeeper" functions for matching PIPs with appropriate sites? What are the incentives for an agent to link PIPs with potential adopters? If facilitators are to be the linking and gatekeeping agents, what changes in role will be required due to the differences between the developer/demonstrators' projects they offer and the PIPs?

- How will ASK, designed to be used independently by LEA staff to select an appropriate project, have to be revised to fit in?

- What are the incentives for LEAs to implement PIP projects as specified? Is there a need for someone to monitor implementation?

- Who are the most appropriate sources of information about the original projects, the use of PIPs in installing projects, the information in the packages, the conditions under which PIPs work best? What are the incentives for each of these sources to share their information or to provide encouragement and support to PIP adopters?

While some of the facilitators will learn about PIP dissemination techniques from the eight PIP diffusion contractors and some others may actually have served as one of the eight, we can already see that there are difficulties posed for facilitators trying to handle both DDs and PIP projects. For example, while the facilitator may conduct some of the initial awareness activities in the same way for both the DD's projects and for PIPs, other activities will require adjustments for differences between them. The facilitator, acting as linking agent between the DD and a potential adopter, expects the DD to handle further orientation, screening, training, encouragement, and follow up. Since

PIPs do not put advocates in touch with adopters, the facilitators are thrust into the role. If USOE wants facilitators to act as advocates or to exert any control over the installation processes, USOE will either have to provide facilitators with training that provides a more formal exposure to the PIPs and PIP projects or it will have to encourage facilitators to link potential adopters with people, for example, LEA staff who implemented PIPs in a previous year, who can fill the advocacy role.

Should USOE Package Other Projects According to the PIP Model?

Because USOE continued to support the original 6 PIPs as revised, does this imply that they should continue "PIPping" other JDRP-approved projects? We would argue that USOE should not automatically plan to package more projects using the same principles, making the same assumptions and following the same formats as the existing PIPs. First, the most suitable packaging for the majority of JDRP-approved projects is not necessarily the PIP model; other kinds of packaging might be more appropriate. Second, the PIP model of packaged information is not always USOE's most cost/effective alternative for project diffusion. Depending on the nature of the projects and the nature of the audiences, different combinations of packaged information and people-to-people exchange would be more cost/effective. Third, direct involvement as developer, producer, and distributor of these educational kits places USOE in a new federal role and leaves project developers, PIP developers, and linking agents in awkward roles.

Limitations of the PIP Model

The PIP model that has been tested and revised is one that assumes an entire project is to be adopted, puts heavy emphasis on the mobilization of resources during the installation phase, gives project and classroom management specifications, and depends on appropriate selection of staff on site (either staffing the project with teachers who are already familiar with the instructional techniques or staffing the project with a director/supervisor who can train/supervise others in the specified techniques). PIPs contain separate manuals for the project director and instructional staff, a materials/equipment catalogue, orientation materials, and evaluation guides. The suitability of the PIP model depends on the nature of the projects of innovative educational practices to be diffused and the nature and circumstances of the audience of potential adopters as well as the purposes of diffusion (or criterion of success).

For innovations that do not comprise entire projects, for training components that require interaction and feedback and for projects requiring flexibility and individual tailoring to the situation, PIPs are not the most appropriate packaging paradigm. For helping regular classroom teachers learn, for example, how to respond to severely hard-of hearing students, the PIP model of packaging would not necessarily be the most appropriate model.

A stand-alone package is less realistic for the adoption and implementation of some kinds of projects than others. As described in Chapter 3, projects that were "pull-out" and "add-on" projects based on commercial curriculum materials and well-known teaching practices were implemented with considerable fidelity by staff using PIPs. The PTR project, for which LEA resource requirements, management information for project director and tutorial supervisor, and daily lesson plans for the tutor could all be specified unambiguously in considerable detail, was installed fairly easily. We presume it could be fitted into almost any school by means of the PIP.

On the other hand, the R-3 project, which is not a pull-out project, which requires the teachers in a departmentalized structure (junior high school) to understand and endorse a teaching/learning philosophy based on student interest and student responsibility, and which requires teachers to change their teaching styles and their curriculum and create a curriculum together on the basis of common themes, was not easily installed or implemented on the basis of the PIP.

In the evaluation, innovative aspects of the projects were confounded with each other and with the packaged mode of communications. Therefore, we cannot say definitively which factors contributed most to the ease or difficulty of implementation. But we believe that the more behavioral and organizational change a project requires and the more varied the agencies to which a package must be addressed, the more need there will be for hands-on training, technical assistance, and encouragement from educators who have already adopted the project philosophy. The more innovative the project to the district in which it is to be implemented and the more districts (or other entities) to which the project would represent considerable change, the more unlikely it is that a package alone will suffice to diffuse projects.

And yet, in attempting to spread exemplary educational practices to new sites, USOE would not want to limit their diffusion to only those projects that are suitable for dissemination as PIPs.

PIP Model Not Always Most Cost/Effective

For some kinds of projects, such as PTR, which have wide appeal and are suitable for installation and implementation in a wide variety of school settings, for which the steps to achieve the objective can be clearly and explicitly communicated in written (or audiovisual) form, and whose content remains pertinent and stable from year to year, the PIP model is probably the most efficient way to provide LEAs with what is necessary for installation of an exemplary project.

To generalize, development of a PIP for a project for which the inputs, expected outcomes, intermediate activities and proximal (to the outcome) curricular events were all well specified may be the most cost/effective method for the federal diffusion. The PIP can substitute for costly technical assistance and very little matchmaking is required for dissemination.

For a project such as R-3, however, packaging in the form of a PIP is probably not worthwhile. The PIP is just as costly to develop and produce as the package for the PTR-type project and we presume that to be effective (even for getting implementation with fidelity, not to mention getting significant achievement gains) it has to be supplemented with considerable technical assistance. An entire book written (at great expense) to inspire in the teaching staff a philosophy of education based on making the curriculum relevant to the life of a teenager might not be as effective (in committing as many teachers) as a single experience at the original R-3 project site. In addition, a PIP based on R-3 would either have to exist in many versions and be revised often to keep the curriculum recommendations "relevant" to more than one kind of site or it would have to leave out specific curriculum suggestions and thus require considerable supplementing.

Whatever the measure of effectiveness used, it would seem unnecessarily expensive for USOE to support the development, revision, and production of a PIP for a project that also requires support for extensive person-to-person exchanges between developer and adopters. A different balance of costs spent on packaging and on interpersonal exchange would seem more reasonable.

PIPs Require USOE Role Change

During the field test of the first PIPs and the period of evaluation of the ASK-PIP concept, it was appropriate for USOE to specify what kinds and how many projects should be packaged and to commission their development, revision, production and dissemination. Currently, however, USOE's role in disseminating PIPs is somewhat peculiar. USOE has assumed a role similar to publishers of educational materials. The government has become involved in the business of testing, revising, and producing packages (at least indirectly through contracts with research and development organizations, printing houses and the like).

USOE's role raises the issue of whether it would be sensible to allow or encourage commercial publishers to become producers of PIPs. We know that one criterion by which projects were originally chosen for PIP was that they were not dependent on a single commercial product or publisher's material. One of the dangers that production of PIPs by a private company runs is that use of one publisher's materials will be emphasized to the exclusion of others and that would lead to decreased effectiveness. It is also not clear that USOE would want to lose control over the PIPs and their research-based quality.

A second role conflict faced by USOE now that PIPs are being disseminated by linking agents under federal contract, is a kind of competitive role relative to the original developers of exemplary projects. The PIPs are USOE's, but the projects described in the PIPs were originally someone else's. USOE is disseminating the projects via PIPs--either instead of or in addition to the original developer.

Because the packages are developed for USOE by one group on the basis of projects developed by other groups, no single agent fully understands the product or feels total responsibility for its utilization. No agent has the full complement of natural incentives to convince others to use the PIP and to help others implement the project by means of the package. A developer is primarily motivated to disseminate his own project in his own way.

As USOE contracts with PIP diffusion contractors, facilitators, or other agents to introduce PIPs to potential adopters, the product becomes far removed from those who have a stake in insuring its appreciation and proper use. And USOE has unwittingly assumed a role as a stronger advocate of PIPs than of projects developed and disseminated by their developers. Since the diffusion of PIPs is neither provider-driven, as the DD projects are, nor user-driven, as NIE's R&D products are supposed to be, then they must be USOE-sponsored, and the federal agency must serve as or support an agent for the purpose of encouraging the use of PIPs.

It is possible that previous users of the original PIPs would be the most knowledgeable and enthusiastic advocates of the existing packaged projects. USOE should consider supporting such people to fill a role similar to DDs as advocates, matchmakers, and to some extent, helpers and monitors. For any future "PIPping" USOE should influence the process by which a developer works with a third-party evaluator/packager, so that the developer himself will be motivated to advocate use of the package.

Should USOE Continue to Support Packaging for Diffusion?

In arguing that USOE should not rush to package the other JDRP-approved projects along the lines of the PIP model, we do not mean to discourage support of packaging in general. On the contrary, the PIP experiment showed that packaged information worked* better than many educators predicted, that management instructions were appreciated by staff involved in adopting projects and that efficiences in communication could be achieved by means of written information. What USOE needs to find out is:

- For what kinds of projects and for what parts of the adoption/implementation process can packages (that is,

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[*] That is, prompted project directors and teachers to carry out the specified project activities.

written or audiovisually presented information) substitute for technical assistance (that is, direct person-to-person communication).

- What balance of in-person and written (or otherwise packaged) information is most cost/effective.

In other words, the characteristics of "PTR'type" projects (which can be effectively implemented via PIPs) and the characteristics of "R-3'type" projects (which require a great deal of technical assistance) need to be understood in order to determine the most cost/effective in-person/packaging balance for each.

We now recognize that PIPs are not the only model for packaging. There are hundreds of curriculum packages and thousands of awareness brochures available to educators, produced by both amateurs and professionals. Many developers of projects in the NDN have created "how to" kits for their own projects that are well received by staff in adopting sites. And USOE, in recognizing that packaged information and in-person communication should be viewed on a continuum, has already encouraged project developers in the NDN to consider more packaging. Through their grants to DDs and through a "how-to-package" manual, USOE has encouraged the developers to analyze their projects, to produce packages where appropriate, and to determine where packaging can supplement or substitute for their personal effort. We do not know what the most effective balance between in-person and packaged information is for different projects. This is an issue on which USOE should focus attention next.

The last 3 years of USOE's support of the PIP development and field test effort and the NDN (that is, grants for facilitators and JDRP-approved project developers) as alternative approaches to the diffusion of exemplary projects has provided a wide variety of projects and of in-person packaging balances used to diffuse them. Such natural variations provide a perfect setting for USOE to learn more about when (and for what types of projects) packaging is appropriate. USOE should study the conditions under which various kinds of packaging are cost/effective. Given that the diffusion of PIP and DD projects is supported by the Division of Educational Replication, and that DDs are being encouraged to package portions of their projects, evaluations of the NDN should include questions about the cost/effectiveness of the various in-person/packaging combinations.

Recommendations

In summary, assuming USOE accepted the satisfaction of individual LEAs' criteria of success as the criterion of success for their federal-level diffusion efforts, we recommended that:

1. USOE continue to use the sixteen PIPs that have already been prepared and supplement their diffusion network with

advocates for each PIP. This could be achieved by (1) providing facilitators with considerable extra exposure to PIP projects and training by PIP diffusion contractors and/or (2) providing minimal supporting grants for previous PIP users to serve as advocates for individual PIPs.

2. Both through grants and through technical assistance, USOE should continue to support packaging efforts by exemplary project developers. USOE should evaluate these efforts and/or conduct other studies to determine the most successful combinations of packaging and in-person assistance for various projects.

3. USOE may want to discontinue "PIPping" other projects until it is determined for which kinds of projects this model is most suitable.

Appendix A

STUDENT AND TEACHER ATTITUDES

Appendix A

STUDENT AND TEACHER ATTITUDES

Student Affect/Attitudes

As part of the evaluation of the PIP field test, we felt it was necessary to establish that favorable attitudes of specific interest held by students at the beginning of treatment did not diminish during PIP project involvement.

To provide measures for the first year's evaluation, we selected three student attitude inventories that were sensitive to student attitudes toward themselves, home, and school. The Faces Attitude Inventory was administered to first and second graders and the Coopersmith Self-Esteem Inventory to higher grades. The Faces and Coopersmith were given as part of both the pre- and post-test batteries.

An additional attitude questionnaire was designed specifically for each PIP and was incorporated into the posttest battery. Each PIP-specific questionnaire was designed to assess whether a student felt any stigma because of his participation in the PIP instructional program and to assess whether the treatment was a pleasant or an unpleasant experience. The PIP-specific questionnaires were also designed to tap parental attitudes as perceived by their children. In addition, the questionnaires elicited the student's assessment of his own academic progress.

As noted in our first-year report, no significant changes in student attitudes from fall to spring were revealed by the Faces and Coopersmith inventories. The PIP-specific attitude questionnaires showed however, that, with relatively few exceptions, positive student feelings developed toward the PIP programs during the year.

Reports had also been received the first year from project instructional staffs who observed positive changes in student attitudes, especially in students' perceptions of themselves as independent learners. In preparation for the second year's study, evaluation staff sought a measure that could detect such changes should they occur the second year.

They undertook an examination of SRI's Intellectual Achievement Responsibility Scale (IAR).[*] This particular measure was investigated because the findings of a 1973 Follow Through study indicated that the teacher and child interaction variables on SRI's Observation Instrument did not correlate with the Coopersmith but were significantly related to scores on the IAR. It was decided that the IAR, which assesses a student's acceptance of responsibility for his own success or failure in intellectual and academic situations, would be better suited to measure student independence.[†]

During the second year, therefore, student attitudes were measured by pre- and post-test administration of the Faces Attitude Inventory for first and second graders and the IAR for higher grades; the PIP-specific attitude questionnaires were administered for all levels at the time of posttest.

Faces Attitudes Inventory

The results of the Faces Attitude Inventory administered to first and second graders are displayed in Table A-1. The data are pooled across projects by PIP and grade. The inventory includes 16 items, two of which are "truth scale" items designed to identify those children who either did not understand the instructions or did not answer with the degree of openness required to produce reliable results.

One must recognize the difficulty of designing an attitude test that can be easily understood and reliably answered by young children, many of whom at the time of pretest have had little or no test experience, particularly in responding to queries concerning a specific facet of personal or academic life. The inventory results must therefore be regarded as indicators, not as absolutes.

Two types of data are displayed for each of two groups. The first group, "selected" children, includes only those who answered all inventory items and whose responses indicated adequate understanding and ability to respond appropriately to the "truth scale" items. The second group includes "all" children to whom the inventory was administered and, we believe, should be considered a less reliable measure of group trends.

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[*] Adapted from the Intellectual Achievement Responsibility Questionnaire by Virginia C. Crandall, Walter Katkovsky, and Vaughan J. Crandall.

[†] A copy of the IAR is attached as Appendix B.

Table A-1

FACES ATTITUDE INVENTORY
RESULTS FOR SELECTED AND TOTAL DATA SETS

	Truth Scale							
	Selected Children				All Children			
Project	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Catch-Up								
Grade 1 (4 projects)								
Mean	5.85	5.91	0.06	0.70	5.69	5.79	0.10	0.75
SD	0.36	0.29	0.49		0.61	0.62	0.85	
N	34	34	34		39	39	39	
BMS	0.06	0.04	0.17		0.44	0.19	1.15	
WMS	0.14	0.09	0.25		0.37	0.39	0.69	
df between	3	3	3		3	3	3	
df within	30	30	30		35	35	35	
F ratio	0.44	0.48	0.71		1.19	0.49	1.66	
Grade 2 (4 projects)								
Mean	5.80	5.85	0.05	0.53	5.76	5.81	0.05	0.42
SD	0.41	0.36	0.60		0.48	0.46	0.73	
N	40	40	40		42	42	42	
BMS	0.76	0.22	1.61		1.02	0.38	2.45	
WMS	0.11	0.12	0.25		0.17	0.19	0.38	
df between	3	3	3		3	3	3	
df within	36	36	36		38	38	38	
F ratio	6.70*	1.80	6.40*		5.91*	1.97	6.39*	
Conquest								
Grade 1 (1 project)								
Mean	5.88	5.88	0	0	5.71	5.71	0	
SD	0.34	0.34	0.52		0.77	0.77	0.50	
N	16	16	16		17	17	17	
Grade 2 (3 projects)								
Mean	5.81	5.81	-0.01	-0.17	5.72	5.71	0.01	-0.12
SD	0.39	0.42	0.52		0.62	0.62	0.73	
N	129	129	129		138	138	138	
BMS	0.20	0.13	0.35		0.13	0.04	0.14	
WMS	0.15	0.17	0.27		0.38	0.39	0.54	
df between	2	2	2		2	2	2	
df within	126	126	126		135	135	135	
F ratio	1.32	0.72	1.30		0.34	0.09	0.26	
PTR								
Grade 1 (2 projects)								
Mean	5.53	5.80	0.27	3.70*	4.99	5.56	0.57	5.57*
SD	0.59	0.40	0.69		1.01	0.78	1.21	
N	89	89	89		141	141	144	
BMS	1.17	0	1.31		5.96	5.49	0.01	
WMS	0.33	0.17	0.46		0.99	0.57	1.47	
df between	1	1	1		1	1	1	
df within	87	87	87		139	139	139	
F ratio	3.51	0.02	2.83		6.04*	9.63*	0.01	

Table A-1 (Concluded)

Project	Total Faces							
	Selected Children				All Children			
	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Catch-Up								
Grade 1 (4 projects)								
Mean	34.53	33.38	-1.15	-1.15	34.41	33.46	-0.95	-1.07
SD	4.63	4.19	5.83		4.52	4.18	5.53	
N	34	34	34		39	39	39	
BMS	25.45	20.36	11.77		18.38	18.33	14.08	
WMS	21.07	17.30	36.23		20.58	17.39	31.99	
df between	3	3	3		3	3	3	
df within	30	30	30		35	35	35	
F ratio	1.21	1.18	0.33		0.89	1.05	0.44	
Grade 2 (4 projects)								
Mean	34.53	35.00	0.48	0.79	34.60	34.81	0.21	0.36
SD	4.54	4.34	3.81		4.48	4.41	3.91	
N	40	40	40		42	42	42	
BMS	35.74	47.48	39.22		26.79	50.79	37.92	
WMS	19.30	16.49	12.45		19.57	17.00	13.45	
df between	3	3	3		3	3	3	
df within	36	36	36		38	38	38	
F ratio	1.85	2.88*	3.15*		1.37	2.99*	2.81*	
Conquest								
Grade 1 (1 project)								
Mean	34.69	36.56	1.88	2.14*	34.24	35.59	1.36	1.39
SD	3.16	2.92	3.50		3.58	4.91	4.02	
N	16	16	16		17	17	17	
Grade 2 (3 projects)								
Mean	34.36	35.05	0.69	2.02*	34.25	34.91	0.67	1.93
SD	3.58	3.80	3.87		3.67	3.90	4.05	
N	129	129	129		138	138	138	
BMS	10.69	3.81	12.43		17.78	1.62	9.16	
WMS	12.86	14.61	15.04		13.38	15.41	16.49	
df between	2	2	2		2	2	2	
df within	126	126	126		135	135	135	
F ratio	0.83	0.26	0.83		1.33	0.11	0.56	
PTR								
Grade 1 (2 projects)								
Mean	31.28	32.87	1.58	2.49*	31.76	32.68	0.92	1.58
SD	5.58	4.90	6.00		6.31	4.94	6.92	
N	89	89	89		141	141	141	
BMS	94.93	28.81	228.34		0.83	0.52	2.67	
WMS	30.45	23.90	33.74		40.12	24.56	48.18	
df between	1	1	1		1	1	1	
df within	87	87	87		139	139	139	
F ratio	3.12	1.21	6.77*		0.02	0.02	0.06	

NOTE: SD = standard deviation; N = number of students; BMS = between mean square; WMS = within mean square; df = degrees of freedom.

*$p \leq 0.05$.

Data for the "truth scale" include only two items; an individual score of from 4 to 6 is required for the child to be included among "selected" children. "Total Faces" data include responses to the other 14 items, with a possible individual positive score of 42.

For both "all" and "selected" children, t tests were applied to the fall-spring difference, and analyses of variance were conducted to assess homogeneity of projects in fall and spring.

Table A-1 shows little change from fall to spring in either "truth scale" scores or "total Faces" scores. Some statistically significant growth can be detected for "total Faces" among "selected" children in Conquest (grades 1 and 2) as well as in PTR (grade 1).

Differences between projects within a PIP group appear marginal except for Catch-Up (grade 2) and PTR, where F ratios are significant at $p \leq 0.05$.

One way to show project differences is by displaying inventory items by project, as in Table A-2. Each project is shown with the total number of students for whom data are provided, the number of students within each response category, and the percent of the total they represent in fall and spring. The table shows data for "all," not "selected," children. Asterisks identify items, in which negative change has been caused by movement of at least 10% of the total number of project students, or a minimum of two students.*

From the results of Table A-2, one sees that the marginal inter-project differences within Catch-Up are partly explained by the negative trends observed on 7 of the 13 test items at Wayne City, compared with only 4 at Bloomington, 3 at Brookport, and 4 at Galax. It was decided to apply an additional test to the question of project differences. Data were pooled across grades within each project and t tests between fall and spring were performed. Results shown in Table A-3 indicate only insignificant decline on "total Faces" at Bloomington for both

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*This rule has been applied because some groups contain small numbers of students. The movement of only one student in or out of a particular response category may create a significant percentage increase in negative response or decrease in positive response. Note that an increase or decrease in a particular category does not always mean a concomitant decrease or increase at the other end of the attitude spectrum. Much of the movement is into the neutral position.

Table A-2

FACES ATTITUDE INVENTORY ITEMS
NEGATIVE AND POSITIVE RESPONSES FOR FALL AND SPRING, BY PROJECT

How You Feel About...	Catch-Up							
	Bloomington		Brookport		Galax		Wayne City	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Learning out of books								
Negative in fall	1	2.2%	1	9.1%	3	20.0%	1	10.0%
Negative in spring	1	2.2	1	9.1	0	0	0	0
Positive in fall	33	73.3	9	81.8	9	60.0	6	60.0
Positive in spring	27	60.0*	6	54.5*	12	80.0	5	50.0
Coming to school in the morning								
Negative in fall	8	17.8	1	9.1	0	0	1	10.0
Negative in spring	16	35.6*	1	9.1	0	0	0	0
Positive in fall	31	68.9	10	90.9	14	93.3	7	70.0
Positive in spring	24	53.3*	9	81.8	15	100.0	4	40.0*
Other boys and girls in school								
Negative in fall	11	24.4	3	27.3	1	6.7	2	20.0
Negative in spring	7	15.6	2	18.2	3	20.0*	0	0
Positive in fall	25	55.6	7	63.6	10	66.7	8	80.0
Positive in spring	30	66.7	7	63.6	11	73.3	9	90.0
How other boys and girls feel about you								
Negative in fall	9	20.0	2	18.2	6	40.0	2	20.0
Negative in spring	9	20.0	1	9.1	4	26.7	3	30.0
Positive in fall	28	62.2	8	72.7	7	46.7	7	70.0
Positive in spring	29	64.4	8	72.7	11	73.3	5	50.0*
Learning new things								
Negative in fall	6	13.3	0	0	1	6.7	0	0
Negative in spring	3	6.7	1	9.1	1	6.7	0	0
Positive in fall	37	82.2	11	100.0	12	80.0	8	80.0
Positive in spring	38	84.4	9	81.8*	14	93.3	10	100.0
How your teacher feels about you								
Negative in fall	8	17.8	2	18.2	1	6.7	1	10.0
Negative in spring	3	6.7	1	9.1	5	33.3*	2	20.0
Positive in fall	26	57.8	8	72.7	10	66.7	7	70.0
Positive in spring	38	84.4	9	81.8	10	66.7	3	30.0*
Your teacher								
Negative in fall	6	13.3	3	27.3	2	13.3	0	0
Negative in spring	4	8.9	0	0	2	13.3	2	20.0*
Positive in fall	30	66.7	7	63.6	12	80.0	8	80.0
Positive in spring	35	77.8	7	63.6	13	86.7	4	40.0*
Your name								
Negative in fall	7	15.6%	3	27.3%	5	33.3%	2	20.0%
Negative in spring	8	17.8	2	18.2	2	13.3	2	20.0
Positive in fall	34	75.6	7	63.6	8	53.3	7	70.0
Positive in spring	28	62.2*	7	63.6	11	73.3	7	70.0
Way you look								
Negative in fall	12	26.7	3	27.3	1	6.7	0	0
Negative in spring	16	35.6	1	9.1	0	0	2	20.0*
Positive in fall	25	55.6	6	54.5	9	60.0	10	100.0
Positive in spring	24	53.3	7	63.6	13	86.7	3	30.0*
What you do at school								
Negative in fall	12	26.7	2	18.2	2	13.3	1	10.0
Negative in spring	9	20.0	2	18.2	0	0	2	20.0
Positive in fall	26	57.8	5	45.5	10	66.7	7	70.0
Positive in spring	28	62.2	6	54.5	14	93.3	4	40.0*
Teacher asking you a question								
Negative in fall	2	4.4	1	9.1	1	6.7	2	20.0
Negative in spring	5	11.1	2	18.2	5	33.3*	2	20.0
Positive in fall	30	66.7	10	90.9	14	93.3	7	70.0
Positive in spring	27	60.0	5	45.5*	9	60.0*	6	60.0
Talking a lot								
Negative in fall	8	17.8	1	9.1	1	6.7	0	0
Negative in spring	13	28.9*	1	9.1	3	20.0*	0	0
Positive in fall	27	60.0	6	54.5	9	60.0	7	70.0
Positive in spring	21	46.7*	8	72.7	10	66.7	3	30.0*
Your clothes								
Negative in fall	4	8.9	1	9.1	2	13.3	0	0
Negative in spring	4	8.9	0	0	2	13.3	0	0
Positive in fall	33	73.3	10	90.9	11	73.3	8	80.0
Positive in spring	34	75.6	9	81.8	12	80.0	7	70.0
Number of students	45		11		15		10	

Table A-2 (Concluded)

How You Feel About...	Conquest						PTR			
	Benton Harbor		Cleveland		Gloversville		Canton		Dallas	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Learning out of books										
Negative in fall	1	4.8%	2	1.8%	1	4.8%	16	21.9%	12	17.6%
Negative in spring	1	4.8	3	2.7	2	9.5	5	6.8	4	5.9
Positive in fall	13	61.9	76	67.3	8	38.1	46	63.0	38	55.9
Positive in spring	16	76.2	78	69.0	10	47.6	54	74.0	52	76.5
Coming to school in the morning										
Negative in fall	4	19.0	20	17.7	7	33.3	16	21.9	10	14.7
Negative in spring	4	19.0	24	21.2	5	23.8	19	26.0	10	14.7
Positive in fall	15	71.4	76	67.3	9	42.9	41	56.2	51	75.0
Positive in spring	9	42.9*	68	60.2	10	47.6	51	69.9	49	72.1
Other boys and girls in school										
Negative in fall	6	28.6	14	12.4	3	14.3	17	23.3	16	23.5
Negative in spring	3	14.3	7	6.2	1	4.8	17	23.3	18	26.5
Positive in fall	9	42.9	67	59.3	11	52.4	39	53.4	40	58.8
Positive in spring	13	61.9	75	66.4	16	76.2	45	61.6	40	58.8
How other boys and girls feel about you										
Negative in fall	5	23.8	14	12.4	5	23.8	29	39.7	24	35.3
Negative in spring	2	9.5	10	8.8	2	9.5	24	32.9	26	38.2
Positive in fall	12	57.1	63	55.8	14	66.7	30	41.1	31	45.6
Positive in spring	13	61.9	79	69.9	13	61.9	37	50.7	31	45.6
Learning new things										
Negative in fall	1	4.8	6	5.3	0	0	9	12.3	9	13.2
Negative in spring	0	0	2	1.8	1	4.8	7	9.6	4	5.9
Positive in fall	18	85.7	100	88.5	20	95.2	48	65.8	44	64.7
Positive in spring	20	95.2	100	88.5	19	90.5	53	72.6	56	82.4
How your teacher feels about you										
Negative in fall	3	14.3	7	6.2	3	14.3	21	28.8	22	32.4
Negative in spring	4	19.0	7	6.2	1	4.8	18	24.7	22	32.4
Positive in fall	16	76.2	83	73.5	13	61.9	39	53.4	36	52.9
Positive in spring	17	81.0	96	85.0	17	81.0	43	58.9	36	52.9
Your teacher										
Negative in fall	2	9.5	6	5.3	2	9.5	19	26.0	20	29.4
Negative in spring	3	14.3	6	5.3	0	0	15	20.5	12	17.6
Positive in fall	17	81.0	90	79.6	16	76.2	39	53.4	35	51.5
Positive in spring	15	71.4*	87	77.0	16	76.2	48	65.8	48	70.6
Your name										
Negative in fall	3	14.3%	8	7.1%	3	14.3%	16	21.9%	17	25.0%
Negative in spring	1	4.8	12	10.6	5	23.8*	15	20.5	11	16.2
Positive in fall	16	76.2	86	76.1	14	66.7	41	56.2	40	58.8
Positive in spring	16	76.2	74	65.5	11	52.4*	43	58.9	48	70.6
Way you look										
Negative in fall	4	19.0	21	18.6	3	14.3	15	20.5	19	27.9
Negative in spring	3	14.3	12	10.6	1	4.8	20	27.4	17	25.0
Positive in fall	14	66.7	76	67.3	11	52.4	37	50.7	33	48.5
Positive in spring	15	71.4	84	74.3	17	81.0	40	54.8	45	66.2
What you do at school										
Negative in fall	3	14.3	21	18.6	3	14.3	14	19.2	16	23.5
Negative in spring	5	23.8*	12	10.6	5	23.8*	15	20.5	16	23.5
Positive in fall	15	71.4	60	53.1	13	61.9	40	54.8	39	57.4
Positive in spring	13	61.9*	74	65.5	13	61.9	49	67.1	33	48.5
Teacher asking you a question										
Negative in fall	5	23.8	13	11.5	3	14.3	15	20.5	15	22.1
Negative in spring	2	9.5	16	14.2	4	19.0	15	20.5	14	20.6
Positive in fall	14	66.7	79	69.9	8	38.1	37	50.7	44	64.7
Positive in spring	13	61.9	69	61.1	10	47.6	44	60.3	39	57.4
Talking a lot										
Negative in fall	10	47.6	42	37.2	3	14.3	16	21.9	21	30.9
Negative in spring	3	14.3	29	25.7	3	14.3	19	26.0	20	29.4
Positive in fall	7	33.3	45	39.8	9	42.9	38	52.1	32	47.1
Positive in spring	10	47.6	50	44.2	13	61.9	42	57.5	36	52.9
Your clothes										
Negative in fall	2	9.5	9	8.0	1	4.8	16	21.9	15	22.1
Negative in spring	1	4.8	3	2.7	1	4.8	16	21.9	18	26.5
Positive in fall	18	85.7	90	79.6	17	81.0	44	60.3	39	57.4
Positive in spring	15	71.4*	97	85.8	17	81.0	45	61.6	34	50.0
Number of students	21		113		21		73		68	

*10% or more negative change from fall to spring.

Table A-3

RESULTS OF FACES ATTITUDE INVENTORY
DATA POOLED ACROSS GRADES WITHIN PROJECTS

	Total Faces							
	Selected Children				All Children			
Project	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Catch-Up								
Bloomington (grades 1-2)								
Mean	34.02	33.85	-0.17	-0.22	34.00	33.80	-0.20	-0.27
SD	4.61	4.42	5.01		4.54	4.49	4.92	
N	41	41	41		45	45	45	
Brookport (grades 1-2)								
Mean	34.20	34.50	0.30	0.19	34.64	34.55	-0.09	-0.06
SD	4.54	3.69	4.99		4.55	3.50	4.91	
N	10	10	10		11	11	11	
Galax (grades 1-2)								
Mean	34.71	36.00	1.29	1.16	34.73	35.93	1.20	1.16
SD	4.86	5.10	4.16		4.68	4.92	4.02	
N	14	14	14		15	15	15	
Wayne City (grades 1-2)								
Mean	36.88	33.11	-3.78	-2.75*	36.30	32.70	-3.60	-2.90*
SD	3.62	2.76	4.12		3.89	2.91	3.92	
N	9	9	9		10	10	10	
Conquest								
Benton Harbor (grade 2)								
Mean	33.80	35.45	1.65	1.73	33.71	34.86	1.14	1.10
SD	4.28	4.11	4.27		4.19	4.84	4.77	
N	20	20	20		21	21	21	
Cleveland (grades 1-2)								
Mean	34.64	35.29	0.65	1.76	34.52	35.09	0.57	1.49
SD	3.41	3.70	3.84		3.53	3.93	4.04	
N	107	107	107		113	113	113	
Gloversville (grade 2)								
Mean	33.67	34.56	0.89	1.11	33.29	34.57	1.29	1.78
SD	3.33	3.65	3.41		3.62	3.68	3.30	
N	18	18	18		21	21	21	
PTR								
Canton (grade 1)								
Mean	30.03	33.56	3.53	3.94*	31.68	32.74	1.05	1.20
SD	5.78	4.73	5.37		6.84	4.93	7.51	
N	36	36	36		73	73	73	
Dallas (grade 1)								
Mean	32.13	32.40	0.26	0.32	31.84	32.62	0.78	1.02
SD	5.33	4.99	6.09		5.75	4.99	6.27	
N	53	53	53		68	68	68	

NOTE: SD = standard deviation; N = number of students.

$^*p \leq 0.05$.

"selected" and "all" children and insignificant decline at Brookport for "all" children, but at Wayne City the decline appears significant for both "all" and "selected" children.

The PTR project differences are not readily explained by examining the item display in Table A-2; however, the t test applied to project scores shows the differences to be the result of significant growth among "selected" children at Canton, compared with smaller increases at Dallas.

According to the item-by-item breakdown, students in almost all PIPs and in almost all projects became more positive toward "other boys and girls in school" during the year. Positive feelings about "how your teacher feels about you" also increased at all projects except Wayne City, Galax, and Dallas. "How you feel about your teacher" also shows almost uniformly positive growth or no change in attitude.

The causes of change, either positive or negative, cannot be attributed necessarily to the PIP experience. The Faces inventory tests total attitude without specifying, for instance, which teacher--regular classroom or PIP. Further, some change in attitudes through the school year would be expected even without the PIP experience. For example, children know each other better in the spring, which may account for the increase in positive feelings toward each other. PIP-specific questions asked at the time of posttest provide a more detailed assessment of student response to the PIP program, and we will discuss these later.

Intellectual Achievement Responsibility Scale

Tables A-4 through A-7 display results of the Intellectual Achievement Responsibility Scale. In these tables, data have been pooled across projects by PIP and grade. The scale consists of 20 forced-choice items that measure the student's beliefs about whether he is responsible for his progress or whether external factors beyond his control affect his progress. Each item stem describes either a positive or negative achievement experience that can routinely occur in the daily life of a student. Each stem is followed by two alternatives, one stating that the event was caused by the student and the other stating that the event was caused by the behavior of someone else in the student's immediate environment.

A necessary condition of early childhood is dependence upon others, but an increase in independence and problem solving capability is expected to accompany normal personality development. The authors of the IAR recognized the possibility that belief in personal responsibility for negative events may develop at a rate different from belief in

Table A-4

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE
RESULTS FOR CATCH-UP

	Responsibility for Negative Events				Responsibility for Positive Events				Total Responsibility			
Catch-Up	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Grade 3 (4 projects)												
Mean	4.65	4.29	-0.37	-0.97	5.65	6.42	0.77	2.59*	10.31	10.71	0.40	0.76
SD	2.20	2.52	2.73		1.93	1.90	2.15		3.15	3.61	3.81	
N	52	52	52		52	52	52		52	52	52	
BMS	3.96	8.01	16.56		0.25	2.12	2.54		3.63	12.44	22.46	
WMS	4.87	6.22	6.88		3.94	3.72	4.74		10.30	13.03	14.02	
df between	3	3	3		3	3	3		3	3	3	
df within	48	48	48		48	48	48		48	48	48	
F ratio	0.81	1.29	2.41		0.06	0.57	0.54		0.35	0.96	1.60	
Grade 4 (5 projects)												
Mean	4.85	5.61	0.76	3.16*	6.75	6.91	0.16	0.70	11.60	12.53	0.93	2.59*
SD	2.12	2.41	2.16		1.91	2.08	2.08		3.36	3.65	3.20	
N	80	80	80		80	80	80		80	80	80	
BMS	12.17	14.47	10.94		3.78	3.88	3.77		24.37	31.72	25.82	
WMS	4.10	5.35	4.33		3.65	4.36	4.34		10.56	12.36	9.39	
df between	4	4	4		4	4	4		4	4	4	
df within	75	75	75		75	75	75		75	75	75	
F ratio	2.97*	2.71*	2.53*		1.03	0.89	0.87		2.31	2.57*	2.75*	
Grade 5 (5 projects)												
Mean	5.24	5.70	0.46	1.38	6.71	7.00	0.29	0.94	11.96	12.70	0.74	1.64
SD	2.55	2.61	2.77		2.01	2.01	2.53		3.63	3.67	3.79	
N	70	70	70		70	70	70		70	70	70	
BMS	17.87	24.31	23.85		3.34	9.48	6.41		30.75	42.82	24.08	
WMS	5.77	5.75	6.65		4.08	3.69	6.41		12.06	11.65	13.74	
df between	4	4	4		4	4	4		4	4	4	
df within	65	65	65		65	65	65		65	65	65	
F ratio	3.09*	4.23*	3.59*		0.82	2.57*	1.00		2.55*	3.67*	1.75	
Grade 6 (4 projects)												
Mean	5.95	6.70	0.75	2.44*	6.60	6.88	0.28	0.97	12.55	13.58	1.03	2.42*
SD	2.26	2.07	1.95		2.22	2.12	1.80		3.84	3.57	2.68	
N	40	40	40		40	40	40		40	40	40	
BMS	8.78	10.75	2.96		7.48	7.72	1.61		32.18	34.37	7.78	
WMS	4.82	3.73	3.85		4.70	4.20	3.36		13.26	10.91	7.16	
df between	3	3	3		3	3	3		3	3	3	
df within	36	36	36		36	36	36		36	36	36	
F ratio	1.82	2.89*	0.77		1.59	1.84	0.48		2.43	3.15*	1.09	
Grade 7 (1 project)												
Mean	6.80	7.40	0.60	0.69	7.80	6.80	-1.00	-0.88	14.60	14.20	-0.40	-0.27
SD	1.64	1.82	1.95		0.84	2.05	2.55		1.82	3.56	3.36	
N	5	5	5		5	5	5		5	5	5	
Grade 8 (1 project)												
Mean	5.50	5.75	0.25	0.14	8.00	7.50	-0.50	-0.77	13.50	13.25	-0.25	-0.15
SD	1.92	4.27	3.50		1.41	0.58	1.29		3.32	4.11	3.40	
N	4	4	4		4	4	4		4	4	4	

NOTE: SD = standard deviation; N = number of students; BMS = between mean square; WMS = within mean square; df = degrees of freedom.

*$p \leq 0.05$.

Table A-5

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE
RESULTS FOR CONQUEST

	Responsibility for Negative Events				Responsibility for Positive Events				Total Responsibility			
Conquest	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Grade 3 (3 projects)												
Mean	4.25	4.69	0.43	1.87	6.18	6.64	0.46	2.42*	10.43	11.33	0.90	2.99*
SD	2.42	2.62	2.73		1.92	1.80	2.25		2.92	3.47	3.53	
N	138	138	138		138	138	138		138	138	138	
BMS	10.93	15.27	2.20		11.71	4.58	3.01		16.48	28.45	2.61	
WMS	5.79	6.73	7.51		3.58	3.23	5.08		8.41	11.82	12.57	
df between	2	2	2		2	2	2		2	2	2	
df within	135	135	135		135	135	135		135	135	135	
F ratio	1.89	2.27	0.29		3.27*	1.42	0.59		1.96	2.41	0.21	
Grade 4 (3 projects)												
Mean	5.15	5.88	0.73	3.14*	6.52	7.25	0.73	3.34*	11.67	13.13	1.46	4.61*
SD	2.27	2.50	2.42		1.84	2.00	2.27		2.96	3.41	3.30	
N	108	108	108		108	108	108		108	108	108	
BMS	6.30	5.37	21.98		12.92	13.93	3.52		1.18	36.60	26.36	
WMS	5.13	6.27	5.54		3.19	3.79	5.20		8.93	11.13	10.59	
df between	2	2	2		2	2	2		2	2	2	
df within	105	105	105		105	105	105		105	105	105	
F ratio	1.23	0.86	3.98*		4.05*	3.67*	0.68		0.13	3.29*	2.49	
Grade 5 (3 projects)												
Mean	5.71	6.25	0.54	2.01*	6.53	7.16	0.63	2.42*	12.24	13.41	1.18	3.07*
SD	2.16	2.45	2.23		1.93	1.83	2.16		2.89	3.36	3.16	
N	68	68	68		68	68	68		68	68	68	
BMS	2.73	2.37	0.55		5.98	11.47	1.12		9.84	18.22	3.24	
WMS	4.72	6.09	5.10		3.65	3.08	4.76		8.29	11.08	10.21	
df between	2	2	2		2	2	2		2	2	2	
df within	65	65	65		65	65	65		65	65	65	
F ratio	0.58	0.39	0.11		1.64	3.72*	0.24		1.19	1.65	0.32	
Grade 6 (3 projects)												
Mean	6.40	6.61	0.21	0.80	6.86	7.00	0.14	0.65	13.26	13.61	0.34	0.93
SD	2.05	2.12	2.43		1.82	1.97	1.97		3.19	3.56	3.48	
N	87	87	87		87	87	87		87	87	87	
BMS	15.98	2.47	6.42		10.24	12.01	4.50		51.60	22.01	9.78	
WMS	3.92	4.54	5.87		3.14	3.69	3.85		9.16	12.41	12.14	
df between	2	2	2		2	2	2		2	2	2	
df within	84	84	84		84	84	84		84	84	84	
F ratio	4.08*	0.54	1.09		3.26*	3.25*	1.17		5.63*	1.77	0.81	

NOTE: SD = standard deviation; N = number of students; BMS = between mean square; WMS = within mean square; df = degrees of freedom.

*$p \leq 0.05$.

Table A-6

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE
RESULTS FOR HIT

	Responsibility for Negative Events				Responsibility for Positive Events				Total Responsibility			
HIT	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Grade 6 (1 project)												
Mean	7.14	7.15	0.01	0.05	7.03	7.37	0.34	1.60	14.18	14.53	0.35	1.06
SD	2.13	1.97	2.12		1.80	1.94	2.03		3.32	3.14	3.18	
N	91	91	91		91	91	91		91	91	91	
Grade 7 (2 projects)												
Mean	7.94	7.90	-0.05	-0.34	7.44	7.45	0.01	0.06	15.38	15.35	-0.04	-0.19
SD	1.92	2.02	2.10		1.97	1.95	2.03		3.28	3.29	3.14	
N	234	234	234		234	234	234		234	234	234	
BMS	33.46	66.10	5.50		0.37	2.74	5.13		40.91	41.93	0.01	
WMS	3.54	3.83	4.39		3.89	3.82	4.11		10.64	10.69	9.90	
df between	1	1	1		1	1	1		1	1	1	
df within	232	232	232		232	232	232		232	232	232	
F ratio	9.46*	17.28*	1.25		0.10	0.72	1.25		3.85*	3.92*	0	
Grade 8 (2 projects)												
Mean	6.73	7.06	0.33	1.94*	7.56	7.33	-0.22	-1.37	14.29	14.39	0.10	0.40
SD	1.82	1.87	1.95		1.56	1.78	1.89		2.67	3.00	3.04	
N	135	135	135		135	135	135		135	135	135	
BMS	13.38	7.37	0.89		9.64	26.79	4.29		0.30	6.06	9.08	
WMS	3.24	3.47	3.83		2.39	2.97	3.57		7.15	9.02	9.21	
df between	1	1	1		1	1	1		1	1	1	
df within	133	133	133		133	133	133		133	133	133	
F ratio	4.13*	2.12	0.23		4.04*	9.01*	1.20		0.04	0.67	0.99	
Grade 9 (2 projects)												
Mean	7.68	7.70	0.02	0.15	7.65	7.38	-0.27	-1.67	15.32	15.08	-0.25	-1.01
SD	1.83	1.85	1.76		1.73	1.70	1.84		3.00	2.92	2.79	
N	130	130	130		130	130	130		130	130	130	
BMS	5.73	8.31	0.24		3.10	0.91	0.65		0.40	3.73	1.68	
WMS	3.32	3.37	3.11		2.99	2.90	3.41		9.06	8.57	7.82	
df between	1	1	1		1	1	1		1	1	1	
df within	128	128	128		128	128	128		128	128	128	
F ratio	1.73	2.47	0.08		1.04	0.31	0.19		0.04	0.44	0.22	

NOTE: SD = standard deviation; N = number of students; BMS = between mean square; WMS = within mean square; df = degrees of freedom.

*$p \leq 0.05$.

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Table A-7

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE RESULTS FOR IRIT AND R-3

IRIT and R-3	Responsibility for Negative Events				Responsibility for Positive Evants				Total Responsibility			
	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
IRIT												
Grade 3 (3 projects)												
Mean	4.63	5.13	0.50	1.56	5.46	6.47	1.01	3.75*	10.09	11.60	1.51	3.87*
SD	2.00	2.36	2.65		1.77	1.70	2.23		2.45	3.08	3.23	
N	68	68	68		68	68	68		68	68	68	
BMS	0.17	4.63	4.70		21.43	2.06	10.22		24.92	10.30	10.20	
WMS	4.11	5.58	7.07		2.55	2.90	4.81		5.41	9.44	10.41	
df between	2	2	2		2	2	2		2	2	2	
df within	65	65	65		65	65	65		65	65	65	
F ratio	0.04	0.83	0.67		8.39*	0.71	2.13		4.61*	1.09	0.98	
Grade 4 (2 projects)												
Mean	5.00	5.47	0.47	1.04	6.06	6.67	0.62	1.48	11.06	12.15	1.09	1.82
SD	2.12	2.35	2.64		2.15	1.92	2.44		3.19	2.18	3.49	
N	34	34	34		34	34	34		34	34	34	
BMS	0	0.14	0.14		0.55	0	0.59		0.55	0.16	1.29	
WMS	4.62	5.70	7.20		4.73	3.80	6.11		10.48	14.88	12.48	
df between	1	1	1		1	1	1		1	1	1	
df within	32	32	32		32	32	32		32	32	32	
F ratio	0	0.02	0.02		0.12	0	0.10		0.05	0.03	0.10	
R-3												
Grade 8 (4 projects)												
Mean	7.21	7.51	0.30	4.25*	7.26	7.42	-0.16	2.34*	14.47	14.93	0.46	4.20*
SD	2.04	1.97	1.99		1.90	1.87	1.94		3.38	3.22	3.11	
N	804	804	804		804	804	804		804	804	804	
BMS	27.18	39.40	2.23		22.70	18.77	1.36		95.98	110.97	3.39	
WMS	4.06	3.74	3.97		3.52	3.45	3.78		11.09	9.98	9.68	
df between	3	3	3		3	3	3		3	3	3	
df within	800	800	800		800	800	800		800	800	800	
F ratio	6.70*	10.53*	0.56		6.45*	5.44*	0.36		8.65*	11.12*	0.35	

NOTE: SD = standard deviation; N = number of students; BMS = between mean square; WMS = within mean square; df = degrees of freedom.

*$p \leq 0.05$.

personal responsibility for positive events, so separate subscores are obtainable along with a total self-responsibility score. Ten items are positive event items and ten are negative event items. The maximum possible individual score, indicating responsibility for either positive or negative events, is ten. The maximum score for total responsibility is the sum of negative and positive events scores, or a maximum of 20.

There are no IAR reliability measures similar to the Faces "truth scale" items, so data are displayed for all items for all students.

As can be seen in Tables A-4 through A-7, there is slight but almost uniform growth in total self-responsibility from fall to spring in all grades in all PIPs.

The gross pattern of increase in self-responsibility at progressively higher grade levels, accompanied by occasional regression, is apparent from examination of the mean scores. This is consistent with findings by the authors of the IAR. However, because the IAR is an adaptation of the Intellectual Achievement Responsibility Questionnaire and has only 20 forced-choice items instead of the Questionnaire's original 34, no direct comparisons of findings can be performed.

The t tests indicate statistically significant growth in responsibility for negative events in grades 4 and 6 in Catch-Up, grades 4 and 5 in Conquest, and grade 8 in both HIT and R-3. Responsibility for positive events shows statistically significant increases for grade 3 in Catch-Up, grades 3, 4, and 5 in Conquest, grade 3 in IRIT, and grade 8 in R-3. Total responsibility scores show slight but statistically significant improvement in Catch-Up, grades 4 and 6; Conquest, grades 3, 4, and 5; IRIT, grade 3, and R-3. The reader should again be cautioned that growth (either negative or positive) cannot be attributed solely to the influence of the PIP experience.

In Catch-Up, there seems to be greater significant growth in responsibility for negative events than for positive events. In Conquest, which treats the same general age levels, the growth pattern over the year is reversed, with responsibility for positive events showing greater significant improvement. Third graders in all three of the PIPs where treatment was received show significant improvement in responsibility for positive events, but none shows significant improvement in responsibility for negative events.

The F ratios for project differences applied to fall, spring, and difference scores indicate some marginal, but nevertheless statistically significant, differences between projects at grade levels 4, 5, and 6 in Catch-Up, at all grade levels in Conquest, at grades 7 and 8 in HIT, at grade 3 in IRIT, and in R-3.

A display of scale items for all projects receiving the IAR was prepared and appears as Table A-8, with data for all grades within a project combined for fall and spring. Grade levels within project, total number of students, and percent of students responding "correctly" are shown for each item in fall and spring. Asterisks indicate which positive and which negative items show a decrease in student self-responsibility by project. The rule of 10% change from fall to spring has been applied.

Looking for an explanation of significant F results in Tables A-4 through A-7 leads to an examination of the individual items in Table A-8. Differences within Catch-Up can be observed in the number of items that show a decline in number of students responding correctly from fall to spring. Wayne City shows a negative change in 6 of 20 scale items, compared with 3 at Providence Forge, 2 at Galax, and 1 at Brookport.

When the IAR data were pooled across grades by project, t tests (shown in Table A-9) revealed significant increases in "total responsibility" scores at Bloomington and Galax, insignificant increases at Brookport and Providence Forge, and a decline, though insignificant, in both "total responsibility" and "responsibility for positive events" at Wayne City.

The source of differences among Conquest projects is less obvious on Table A-8 but appears to be attributable to Gloversville's pattern of performance. This was verified by t tests on project scores pooled across grade (shown in Table A-9). Significant growth occurred at all three projects on each subscale and on total scales with the exception of Gloversville, where significant growth occurred only for "total responsibility" and "responsibility for positive events."

On the item breakdown for HIT, not much change occurred. The t tests applied to project scores show slight growth in both the subscales and the total for Lexington and slight declines in "total responsibility" and "responsibility for positive events" at Olean.

As with Conquest projects, the explanation for differences among IRIT projects is less apparent on Table A-8. In Table A-9, the t test applied to project scores shows gains in both subscales and total scales at Bloomington and Schenectady, but Oklahoma City obtained significant growth only in "total responsibility" and "responsibility for positive events."

Table A-8

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE ITEMS CORRECT RESPONSES FOR FALL AND SPRING (In Percent of Total Students)

Project	Grades	Number of Students	Scale Items									
			1+	2-	3-	4+	5+	6+	7-	8+	9-	10-
Catch-Up												
Bloomington	3-5	106										
Fall			64.2%	44.3%	71.7%	77.4%	82.1%	60.4%	51.9%	49.1%	51.9%	38.7%
Spring			71.[illegible]	48.1	77.4	84.9	87.7	66.0	51.9	53.8	48.1	58.5
Brookport	3-6	38										
Fall			68.4	31.6	60.5	63.2	86.8	73.7	63.2	68.4	36.8	63.2
Spring			76.3	55.3	73.7	73.7	84.2	73.7	55.3	55.3*	47.4	55.3
Galax	3-6	28										
Fall			89.3	53.6	60.7	71.4	92.9	78.6	50.0	50.0	75.0	57.1
Spring			92.9	64.3	85.7	85.7	92.9	64.3*	60.7	67.9	64.3*	57.1
Providence Forge	4-6	49										
Fall			79.6	44.9	83.7	71.4	75.5	67.3	59.2	59.2	40.8	59.2
Spring			77.6	59.2	89.8	79.6	83.7	44.9*	46.9*	65.3	38.8	65.3
Wayne City	3-8	30										
Fall			90.0	33.3	70.0	90.0	83.3	73.3	56.7	56.7	43.3	56.7
Spring			83.3	53.3	86.7	73.3*	86.7	66.7	43.3*	40.0*	50.0	63.3
Conquest												
Benton Harbor	3-6	86										
Fall			66.3	58.1	62.8	77.9	80.2	69.8	57.0	52.3	50.0	66.3
Spring			69.8	72.1	77.9	83.7	83.7	62.8	59.3	61.6	52.3	65.1
Cleveland	3-6	200										
Fall			70.0	47.0	63.0	72.0	83.0	63.0	46.0	51.5	44.5	49.5
Spring			72.5	55.5	71.5	79.5	80.5	73.0	52.7	58.5	52.0	67.0
Gloversville	3-6	115										
Fall			61.7	53.0	80.0	88.7	82.6	53.9	53.9	60.0	49.6	60.9
Spring			73.0	50.4	77.4*	92.2	90.4	58.3	53.9	64.3	51.3	57.4
HIT												
Lexington	6-9	294										
Fall			83.0	56.5	81.3	84.4	84.7	59.2	70.4	65.3	74.1	68.0
Spring			85.0	61.2	85.7	89.1	88.4	65.3	70.7	59.9	69.0	66.3
Olean	7-9	296										
Fall			83.1	61.8	92.6	92.9	90.2	57.1	70.9	59.5	79.4	78.4
Spring			71.6*	58.8	93.6	92.9	88.5	57.8	80.7	59.1	74.0	77.4
IRIT												
Bloomington	3-4	42										
Fall			61.9	42.9	73.8	61.9	90.5	73.8	40.5	52.4	47.6	40.5
Spring			69.0	50.0	73.8	71.4	85.7	61.9*	59.5	47.6	35.7*	54.8
Oklahoma City	3	29										
Fall			41.4	44.8	51.7	65.5	62.1	44.8	62.1	44.8	44.8	48.3
Spring			69.0	34.5*	65.5	82.8	69.0	79.3	44.8*	37.9	55.2	58.6
Schenectady*	3-4	31										
Fall			54.8	58.1	58.1	87.1	80.6	71.0	54.8	58.1	38.7	71.0
Spring			80.6	71.0	77.4	87.1	77.4	71.0	64.5	54.8	48.4	61.3*
R-3												
Charlotte	8	234										
Fall			81.2	62.0	89.3	89.7	91.9	53.4	63.7	62.4	65.0	76.5
Spring			78.2	60.7	94.9	89.7	94.0	46.6	80.3	67.1	62.0	76.9
Lake Village	8	126										
Fall			85.7	70.6	88.1	89.7	88.9	60.3	75.4	64.3	73.0	73.0
Spring			85.7	69.0	93.7	90.5	93.7	56.3	74.6	61.1	80.2	80.2
Lorain	8	279										
Fall			78.5	44.4	90.3	89.6	86.4	47.0	63.4	54.5	50.5	67.4
Spring			73.1	52.7	91.8	89.2	84.6	49.5	61.3	59.9	53.8	65.9
Schenectady	8	165										
Fall			86.7	67.3	90.3	88.5	90.3	60.6	65.5	67.9	69.1	75.2
Spring			81.8	66.1	91.5	92.7	87.9	57.0	70.9	64.2	75.8	73.9
Total	3-9	2,148										
Fall			77.2	54.8	81.4	84.5	86.2	58.6	62.4	59.0	60.9	66.2
Spring			76.8	58.6	86.3	87.7	87.3	59.2	66.2	60.1	61.4	68.7

Table A-8 (Concluded)

Project	Scale Items									
	11+	12-	13-	14+	15-	16+	17-	18+	19+	20-
Catch-Up										
Bloomington										
Fall	73.6%	58.5%	34.9%	50.9%	18.9%	52.8%	61.3%	70.8%	46.2%	50.0%
Spring	78.3	56.6	46.2	51.9	25.5	56.6	65.1	67.0	53.8	57.5
Brookport										
Fall	81.6	57.9	44.7	52.6	31.6	52.6	55.3	63.2	55.3	39.5
Spring	78.9	60.5	47.4	50.0	34.2	52.6	68.4	76.3	60.5	50.0
Galax										
Fall	82.1	57.1	46.4	75.0	32.1	53.6	57.1	75.0	35.7	57.1
Spring	82.1	85.7	53.6	71.4	39.3	71.4	67.9	78.6	64.3	67.9
Providence Forge										
Fall	75.5	69.4	46.9	63.3	20.4	42.9	71.4	73.5	42.9	46.9
Spring	77.6	59.2*	40.8	69.4	26.5	55.1	63.3	73.5	57.1	53.1
Wayne City										
Fall	80.0	70.0	53.3	50.0	60.0	36.7	83.3	63.3	60.0	63.3
Spring	90.0	63.3	60.0	56.7	46.7*	36.7	60.0*	63.3	50.0*	63.3
Conquest										
Benton Harbor										
Fall	66.3	64.0	47.7	67.4	22.1	64.0	65.1	73.3	47.7	47.7
Spring	81.4	72.1	61.6	74.4	24.4	55.8	72.1	75.6	61.6	48.8
Cleveland										
Fall	64.0	60.0	46.0	54.5	28.0	55.0	55.5	65.0	58.0	33.0
Spring	68.0	55.5	48.5	65.0	26.5	60.0	63.0	71.5	58.0	46.0
Gloversville										
Fall	78.3	68.7	56.5	74.8	37.4	53.0	69.6	55.7	47.0	60.0
Spring	80.0	67.0	65.2	65.2*	40.9	61.7	80.0	63.5	57.4	52.0
HIT										
Lexington										
Fall	86.7	81.3	79.9	83.3	52.0	65.6	83.3	83.7	51.4	64.6
Spring	89.1	82.7	78.6	79.6	52.7	64.3	82.0	81.0	52.4	65.0
Olean										
Fall	94.9	83.4	75.3	71.3	68.2	66.9	93.6	69.6	57.1	81.4
Spring	92.6	83.8	79.4	66.6	72.0	66.9	92.2	71.3	57.8	83.4
IRIT										
Bloomington										
Fall	69.0	61.9	40.5	38.1	21.4	45.2	73.8	50.0	45.2	47.6
Spring	88.1	57.1	42.9	57.1	26.2	54.8	71.4	59.5	66.7	47.6
Oklahoma City										
Fall	48.3	62.1	27.6	34.5	31.0	48.8	62.1	37.9	34.5	20.7
Spring	62.1	65.5	44.8	69.0	27.6	55.2	51.7*	58.6	37.9	55.2
Schenectady										
Fall	54.8	38.7	48.4	58.1	16.1	54.8	48.4	67.7	48.4	41.9
Spring	64.5	58.1	45.2	71.0	25.8	61.3	41.9	54.8*	51.6	58.1
R-3										
Charlotte										
Fall	89.7	82.9	81.6	70.5	60.7	69.7	88.0	72.6	54.7	71.4
Spring	93.2	81.6	86.3	72.2	67.5	76.1	94.0	72.2	66.2	79.5
Lake Village										
Fall	88.9	80.2	82.5	70.6	60.3	55.6	81.0	81.0	57.1	69.8
Spring	92.1	77.8	84.1	79.4	59.5	63.5	89.7	81.7	61.1	69.0
Lorain										
Fall	88.9	79.6	65.2	61.6	57.3	70.3	86.4	58.8	52.3	73.1
Spring	93.2	77.8	74.6	62.4	61.3	76.7	83.9	64.2	53.6	75.6
Schenectady										
Fall	92.7	75.8	78.8	74.5	63.6	69.1	82.4	71.5	60.6	72.7
Spring	93.3	79.4	73.9	78.8	62.4	71.5	89.1	77.6	60.0	89.1
Total										
Fall	83.2	74.2	65.6	67.2	48.8	62.0	78.2	69.4	53.1	62.9
Spring	86.5	74.2	69.6	69.1	51.3	65.7	80.5	71.9	57.5	68.0

*Represents at least a 10% negative change from fall to spring.

Table A-9

RESULTS OF INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE
DATA POOLED ACROSS GRADES WITHIN PROJECTS

Project	Responsibility for Negative Events				Responsibility for Positive Events				Total Responsibility			
	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference	Fall	Spring	Diff.	t Test for Fall-Spring Difference
Catch-Up												
Bloomington (grades 3-5)												
Mean	4.82	5.35	0.53	2.08*	6.27	6.72	0.44	2.05*	11.09	12.07	0.97	2.81*
SD	2.20	2.59	2.61		2.00	1.97	2.22		3.28	3.79	3.56	
N	106	106	106		106	106	106		106	106	106	
Brookport (grades 3-6)												
Mean	4.84	5.47	0.63	1.75	6.66	6.82	0.16	0.47	11.50	12.29	0.79	1.49
SD	2.15	2.65	2.22		1.99	2.17	2.07		3.75	4.12	3.26	
N	38	38	38		38	38	38		38	38	38	
Galax (grades 3-6)												
Mean	5.46	6.46	1.00	2.41*	7.04	7.71	0.68	1.90	12.50	14.18	1.68	2.93*
SD	2.89	2.49	2.19		1.60	1.86	1.89		4.08	3.55	3.03	
N	28	28	28		28	28	28		28	28	28	
Providence Forge (grades 4-6)												
Mean	5.43	5.43	0	0	6.51	6.84	0.33	0.94	11.94	12.27	0.33	0.65
SD	2.40	2.33	2.61		2.28	2.26	2.44		3.71	3.28	3.49	
N	49	49	49		49	49	49		49	49	49	
Wayne City (grades 3-8)												
Mean	5.90	5.90	0	0	6.83	6.47	-0.37	-0.99	12.73	12.37	-0.37	-0.64
SD	1.97	2.73	2.18		2.00	1.48	2.03		2.97	3.62	3.15	
N	30	30	30		30	30	30		30	30	30	
Conquest												
Benton Harbor (grades 3-6)												
Mean	5.41	6.06	0.65	2.83*	6.65	7.10	0.45	2.18*	12.06	13.16	1.10	3.53*
SD	2.25	2.30	2.14		1.96	1.78	1.93		3.17	3.32	2.90	
N	86	86	86		86	86	86		86	86	86	
Cleveland (grades 3-6)												
Mean	4.73	5.38	0.66	3.37*	6.36	6.87	0.51	3.06*	11.09	12.25	1.16	4.36*
SD	2.48	2.77	2.75		1.90	2.01	2.33		3.12	3.80	3.76	
N	200	200	200		200	200	200		200	200	200	
Gloversville (grades 3-6)												
Mean	5.90	5.96	0.06	0.29	6.56	7.06	0.50	2.57*	12.45	13.02	0.57	1.97*
SD	2.17	2.33	2.25		1.82	1.81	2.12		3.04	3.31	3.08	
N	115	115	115		115	115	115		115	115	115	
HIT												
Lexington (grades 6-9)												
Mean	7.12	7.14	0.02	0.20	7.47	7.54	0.07	0.60	14.59	14.68	0.09	0.52
SD	1.97	2.00	2.02		1.86	1.78	1.94		3.17	3.08	3.03	
N	294	294	294		294	294	294		294	294	294	
Olean (grades 7-9)												
Mean	7.85	7.95	0.10	0.88	7.43	7.25	-0.18	-1.53	15.28	15.20	-0.07	-0.42
SD	1.90	1.86	1.98		1.76	1.92	1.98		3.07	3.19	3.07	
N	296	296	296		296	296	296		296	296	296	
IRIT												
Bloomington (grades 3-4)												
Mean	4.90	5.19	0.28	0.77	5.88	6.62	0.74	1.88	10.79	11.81	1.02	1.97
SD	2.09	2.68	2.40		1.89	2.01	2.55		2.82	3.23	3.36	
N	42	42	42		42	42	42		42	42	42	
Oklahoma City (grade 3)												
Mean	4.55	5.03	0.48	0.88	4.59	6.21	1.62	4.01	9.14	11.24	2.10	3.46
SD	2.13	2.20	2.95		1.68	1.59	2.18		2.36	2.66	3.28	
N	29	29	29		29	29	29		29	29	29	
Schenectady (grades 3-4)												
Mean	4.74	5.52	0.77	1.61	6.35	6.74	0.39	1.13	11.10	12.26	1.16	1.99
SD	1.91	2.03	2.68		1.76	1.57	1.91		2.65	2.29	3.25	
N	31	31	31		31	31	31		31	31	31	
R-3												
Charlotte (grade 8)												
Mean	7.41	7.84	0.43	3.46*	7.36	7.56	0.20	1.64	14.77	15.39	0.62	3.17*
SD	2.02	1.80	1.89		1.95	1.94	1.83		3.46	3.15	3.01	
N	234	234	234		234	234	234		234	234	234	
Lake Village (grade 8)												
Mean	7.54	7.78	0.24	1.77	7.42	7.65	0.23	1.47	14.96	15.43	0.47	2.19*
SD	1.90	1.97	1.51		1.76	1.59	1.76		3.07	2.94	2.40	
N	126	126	126		126	126	126		126	126	126	
Lorain (grade 8)												
Mean	6.78	6.99	0.21	1.54	6.88	7.06	0.18	1.55	13.66	14.04	0.39	1.93
SD	1.97	2.03	2.26		1.86	1.79	1.94		3.25	3.18	3.36	
N	279	279	279		279	279	279		279	279	279	
Schenectady (grade 8)												
Mean	7.41	7.72	0.32	2.05*	7.62	7.64	0.02	0.14	15.03	15.37	0.34	1.33
SD	2.16	1.92	1.98		1.88	2.03	2.23		3.46	3.29	3.28	
N	165	165	165		165	165	165		165	165	165	

NOTE: SD = standard deviation; N = number of students.

*$p \leq 0.05$.

Significant differences among R-3 projects occurred in both fall and spring, but an item examination shows that none experienced a 10% or more movement by students from pre- to post-test. The added t test applied to project scores shows significant growth in "responsibility for negative events" in Charlotte and Schenectady and significant growth for "total responsibility" at Charlotte and Lake Village, but no significant growth in "responsibility for positive events" at any of the four projects, nor any significant growth on any scale at Lorain.

PIP-Specific Student Attitude Questionnaires (SAQ)

The general attitude inventories already discussed were designed to indicate whether children's self-concept and attitudes toward school and peers grew or suffered from fall to spring. The PIP-specific student attitude questionnaires (SAQS), on the other hand, measure only student reaction to certain aspects of the PIP program--reactions developed during the period of treatment and assessed through a single measure at time of posttest.

The SAQ for grades 1 and 2 used the Faces format with which students had already gained familiarity in the regular test battery administration. We will refer to this questionnaire as the FSAQ.

The SAQ used for higher grades was a format adaptation of the Coopersmith Self-Esteem Inventory, the general attitude inventory administered to the higher grade levels in the first year's study. We will refer to this questionnaire as the CSAQ.

The FSAQ contained 8 questions for both Conquest and Catch-Up and 7 questions for PTR. The CSAQ contained 11, 12, or 13 questions, depending on the specific PIP for which it was designed.

General categories of questionnaire items that are common to both SAQs have been placed in tables to show student response by project. These categories deal with student responses to questions about being in the program, leaving the regular classroom to attend PIP treatment, learning, and parent attitudes.

Table A-10 shows that most students feel positive about being in their programs. Wayne City students in grades 1 and 2, however, were evenly split between positive and negative feelings. Fewer than half of these same students, as well as Canton PTR students, indicated they believed other boys and girls felt sad about not being in the program. At the higher grade levels, most students also felt positive about the

Table A-10

STUDENT ATTITUDE QUESTIONNAIRES
RESPONSES TO SELECTED QUESTIONS ABOUT BEING IN THE PROGRAM
(In Percent of Total Students)

	FSAQ				CSAQ											
	How You Feel About Being in the Program				How Other Boys and Girls Feel About Not Being in the Program				Wish I Were Not in Program		Most Other Kids Wish They Were In			I Like R-3 Classes		
Project	Happy	Neutral	Sad	No Response	Happy	Neutral	Sad	No Response	Yes	No	Yes	No	No Response	Yes	No	No Response
Catch-Up																
Bloomington	70.2%	15.8%	14.0%		26.3%	15.8%	57.9%		46.7%	52.4%	61.0%	38.1%	1.0%			
Brookport	54.5	36.4	9.1		27.3	18.2	54.5		36.8	57.9	81.6	18.4				
Galax	70.6	5.9	17.6	5.9%	23.5	5.9	70.6		31.0	65.5	65.5	34.5				
Providence Forge									40.7	59.3	55.6	44.4				
Wayne City	36.4	27.3	36.4		27.3	27.3	45.5		43.3	56.7	56.7	43.3				
All students	64.6	17.7	16.7	1.0	26.0	15.6	58.3		41.8	56.6	62.9	36.7	0.4			
Conquest																
Benton Harbor	71.4	10.7	14.3	3.6	3.6	10.7	85.7		22.1	76.7	76.7	20.9				
Cleveland	76.6	18.2	5.1		28.5	20.4	51.1		28.2	71.8	72.3	27.2				
Gloversville	57.7	19.2	19.2		19.2	23.1	57.7		41.4	57.8	47.4	51.7				
All students	73.[illegible]	17.3	8.4	0.5	23.6	19.4	57.1		30.7	68.8	66.1	32.9				
HIT																
Lexington									23.5	75.8	73.8	26.2				
Olean									49.0	51.0	29.6	69.4				
All students									36.4	63.3	51.5	48.0				
IRIT																
Bloomington									26.2	73.8	73.8	26.2				
Oklahoma City									41.4	58.6	96.6	3.4				
Schenectady									25.8	74.2	58.1	41.9				
All students									30.4	69.6	75.5	24.5				
PTR																
Canton	54.4	15.4	29.0	1.2	31.4	20.1	48.5									
Dallas	54.2	22.5	22.5	0.8	19.2	24.2	55.8	0.8%								
All students	54.3	18.3	26.3	1.0	26.3	21.8	51.6	0.3								
R-3																
Charlotte											78.4	21.6		84.3%	15.3%	0.4%
Lake Village											78.0	22.0		90.2	9.8	
Lorain											77.9	21.8	0.3	74.4	25.3	0.3
Schenectady											57.4	42.6		67.6	32.4	
All students											73.7	26.2	0.1	78.2	21.6	0.2

PIP programs and, with the exception of Gloversville and Olean, believed that "most other kids wish they were in the program too."

As shown in Table A-11, first and second graders in all projects except Wayne City felt happy about leaving their regular classrooms to attend PIP treatment centers. At Wayne City, just slightly fewer than half felt sad. Among higher grade level students at Providence Forge and Wayne City (Catch-Up) and Schenectady (IRIT), between 40% and 50% of students often felt sad when they had to leave their other classes to attend PIP treatment. Gloversville students were evenly split on the question.

In view of the overall positive response toward PIP participation, but the reluctance of some to leave their regular classrooms, further explanation was sought by looking at the questions concerning whether students felt they missed out on regular classroom activities when they attended PIP treatment and whether they were teased by other students about their being in the program.

Table A-11 shows that most students in all projects and in all PIPs were not teased about being in the program, but a majority of students in 9 of the 13 projects dealing with this item on the questionnaire indicated they do miss out on things in other classes when they leave to attend PIP treatment.

No stigma appears to be attached to PIP participation, but "missing out on things" is apparently a compelling reason to feel bad about leaving the regular classroom.

R-3 is not a pull-out program, so these items were not included on questionnaires given at the four R-3 projects.

Table A-12 displays an overview of student feelings regarding their academic progress since entry into PIP programs. Only Wayne City first and second graders indicated a less than 50% positive attitude, although it is the only project that registered no negative reactions to the question. Students there were divided evenly between the positive and neutral positions, and 9.1% felt they could not answer the question for some reason.

Except for Olean HIT, and Lorain and Schenectady R-3 projects, the majority of project students indicated they felt their teachers made them feel they could learn anything.

Table A-11

STUDENT ATTITUDE QUESTIONNAIRES
RESPONSES TO SELECTED QUESTIONS ABOUT LEAVING REGULAR CLASSROOM
(In Percent of Total Students)

	FSAQ				CSAQ								
	How You Feel When You Leave Regular Classroom and Go to PIP				Often Feel Bad When I Leave Regular Class to Go to PIP			Missed Out on Things in My Other Class			Other Kids Teased Me		
Project	Happy	Neutral	Sad	No Response	Yes	No	No Response	Yes	No	No Response	Yes	No	No Response
Catch-Up													
Bloomington	56.1%	26.3%	17.5%		45.7%	52.4%	1.9%	61.9%	36.2%	1.9%	25.7%	74.3%	
Brookport	54.5	18.2	27.3		39.5	60.5		63.2	36.8		31.6	68.4	
Galax	70.6	11.8	11.8	5.9%	34.5	65.5		65.5	34.5		20.7	75.9	3.4%
Providence Forge					57.4	42.6		79.6	20.4		27.8	70.4	1.9
Wayne City	18.2	36.4	45.5		53.3	46.7		56.7	43.3		23.3	76.7	
All students	54.2	24.0	20.8	1.0	46.9	52.3	0.8	65.6	33.8	0.8	26.2	73.0	0.8
Conquest													
Benton Harbor	53.6	21.4	21.4	3.6	27.9	70.9	1.2	52.3	47.7		12.8	87.2	
Cleveland	65.0	21.2	13.9		40.6	58.4	1.0	56.9	41.1	2.0	26.2	72.8	1.0
Gloversville	73.1	3.8	19.2	3.8	50.0	50.0		66.4	33.6		19.8	80.2	
All students	64.4	18.8	15.7	1.1	40.6	58.7	0.7	58.7	40.3	0.9	21.5	78.0	0.4
HIT													
Lexington					37.6	62.1	0.3	38.3	61.7		17.1	82.6	0.3
Olean					41.1	58.2	0.7	37.2	62.8		12.2	87.5	0.3
All students					39.4	60.1	0.5	37.7	62.3		14.6	85.0	0.3
IRIT													
Bloomington					42.9	57.1		66.7	33.3		23.8	76.2	
Oklahoma City					44.8	55.2		44.8	55.2		41.4	55.2	3.4
Schenectady					58.1	41.9		41.9	54.8	3.2	32.3	64.5	3.2
All students					48.0	52.0		52.9	46.1	1.0	31.4	66.7	2.0
PTR													
Canton	53.3	22.5	23.1	1.2									
Dallas	54.2	13.3	31.7	0.8									
All students	53.6	18.7	26.6	1.0									

Table A-12

STUDENT ATTITUDE QUESTIONNAIRES
RESPONSES TO SELECTED QUESTIONS ON LEARNING
(In Percent of Total Students)

	FSAQ				CSAQ											
	How You Feel About How Much You Learn				PIP Teacher Makes Me Feel I Can Learn Anything			Read Better Because of PIP			Do Math Better Because of PIP			Do School Work Better Because of PIP*		
Project	Happy	Neutral	Sad	No Response	Yes	No	No Response	Yes	No	No Response	Yes	No	No Response	Yes	No	No Response
Catch-Up																
Bloomington	89.5%	1.8%	8.8%		63.8%	36.2%		77.1%	22.9%		64.8%	33.3%	1.9%			
Brookport	63.6	27.3	9.1		84.2	10.5	5.3%	92.1	7.9		84.2	15.8				
Galax	82.4	0	17.6		79.3	20.7		89.7	10.3		93.1	6.9				
Providence Forge					74.1	25.9		61.1	37.0	1.9%	75.9	24.1				
Wayne City	45.5	45.5	0	9.1%	60.0	40.0		76.7	23.3		56.7	43.3				
All students	80.2	9.4	9.4	1.0	70.3	28.9	0.8	77.3	22.3	0.4	72.3	27.0	0.8			
Conquest																
Benton Harbor	78.6	10.7	10.7		84.9	15.1		89.5	10.5							
Cleveland	84.7	10.9	4.4		74.3	24.8	1.0	85.6	14.4							
Gloversville	61.5	30.8	7.7		71.6	27.6	0.9	77.6	20.7							
All students	80.6	13.6	5.8		75.7	23.5	0.7	84.2	15.3							
HIT																
Lexington					68.1	31.5	0.3							79.9%	19.5%	0.3%
Olean					39.1	60.9								41.8	58.2	
All students					53.5	46.3	0.2							60.6	39.0	0.2
IRIT																
Bloomington					69.0	28.6	2.4	85.7	14.3							
Oklahoma City					69.0	31.0		93.1	3.4	3.4						
Schenectady					54.8	41.9	3.2	77.4	22.6							
All students					64.7	33.3	2.0	85.3	13.7	1.0						
PTR																
Canton	75.7	13.0	11.2													
Dallas	79.2	11.7	8.3													
All students	77.2	12.5	10.0													
R-3																
Charlotte					66.5	33.5		61.4	37.3	1.3	73.3	26.3	0.4	56.4	42.8	0.8
Lake Village					72.4	27.6		72.4	27.6		78.0	21.1		52.0	48.0	
Lorain					47.1	52.6	0.3	72.3	27.7		57.8	42.2		66.1	33.6	0.3
Schenectady					49.4	50.6		40.3	59.7		46.6	53.4		35.2	64.8	
All students					56.9	43.0	0.1	62.4	37.3	0.4	62.9	36.9	0.1	54.6	45.0	0.2

*In R-3, the question referred specifically to doing better work in social studies.

With few exceptions, the majority of students felt they were doing better in reading, math, social studies, and school work in general. Schenectady (R-3) was negative in all areas, as was Olean (HIT).

Most students indicated parental approval of their participation in PIP, as shown in Table A-13. Olean is once again an exception, along with Providence Forge. Compared with other questionnaire items administered, an unusually large number of students did not respond to this question. This could mean that parents had little or no information about their children's involvement in PIP, or that students could not relate to parents' opinion or had no idea how their parents might feel. It could also mean that many parents simply do not interest themselves with their children's academic progress.

Summary

As in the first year of implementation, we found positive response to the PIPs by the majority of students. However, any incidence of negative responses accumulated by projects deserves close examination.

PIP and non-PIP staff attitudes have an impact on student attitudes, as do events or conditions within specific project environments that act upon but are not created by the PIP programs themselves. At Wayne City, for instance, the project school's small size made it necessary to incorporate in the program most of the students in the school (54 out of 87). Many of the students had achievement test performances well above the lower quartile, and several were seventh and eighth graders. The project school is in a rural area where it is difficult to find teachers willing to work only a half day. As a result, three of the four project teachers had afternoon jobs, which meant less time for planning and preparing the next day's activities, less time for establishing and maintaining contact with the regular staff and parents, and less time for getting to know the "whole child." It is not clear which of these factors, if any, were responsible for the observed pattern of student responses on the attitude measures. Despite the problems created by the school's location, 75% of the non-PIP teachers at Wayne City indicated on their attitude questionnaires that student attitudes toward learning had improved greatly or somewhat, as had their self-esteem. Only 25% indicated student improvement in willingness to take responsibility--a judgment verified by student responses to the IAR.

At Schenectady, for example, teacher strikes had caused considerable upheaval and bitterness in the community. To many teachers already under pressure, being asked to implement the PIP program meant assuming an additional burden. R-3 is a complex program and the gaming/simulation

Table A-13

STUDENT ATTITUDE QUESTIONNAIRES
RESPONSES TO QUESTIONS ON PARENT ATTITUDES

(In Percent of Total Students)

	FSAQ How Your Parents Feel About PIP				CSAQ Parents Happy I Was in the Program		
Project	Happy	Neutral	Sad	No Response	Yes	No	No Response
Catch-Up							
Bloomington	68.4%	17.5%	14.0%		66.7%	33.3%	
Brookport	63.6	18.2	18.2		65.8	31.6	2.6%
Galax	76.5	11.8	11.8		72.4	27.6	
Providence Forge					42.6	57.4	
Wayne City	63.6	18.2	18.2		60.0	40.0	
All students	68.8	16.7	14.6		61.3	38.3	0.4
Conquest							
Benton Harbor	78.6	14.3	7.1		89.5	9.3	1.2
Cleveland	83.2	9.5	7.3		82.7	16.8	0.5
Gloversville	88.5	7.7	3.8		77.6	20.7	1.7
All students	83.2	9.9	6.8		82.7	16.3	1.0
HIT							
Lexington					80.5	19.5	
Olean					49.7	48.0	2.3
All students					65.0	33.9	1.2
IRIT							
Bloomington					88.1	11.9	
Oklahoma City					79.3	17.2	3.4
Schenectady					71.0	25.8	3.2
All students					80.4	17.6	2.0
PTR							
Canton	55.6	14.8	28.4	1.2%			
Dallas	52.5	19.2	28.3				
All students	54.3	16.6	28.4	0.6			
R-3							
Charlotte					84.7	14.8	0.4
Lake Village					91.9	7.3	0.8
Lorain					74.4	24.9	0.7
Schenectady					54.0	44.3	1.7
All students					75.6	23.5	0.9

component of the PIP provided few activities at appropriate levels for use with the students over the year. Little planning time was allocated for the teachers. This does not explain, however, why students' assessment of their own academic progress (shown on the CSAQ) is not greater. Fewer than one-half felt they were doing better in math, reading, and social studies.

Despite the problems at Schenectady, 75% of the students were happy with their R-3 classes and believed that other students in school wished they were in the program too. Support for this statistic appeared in responses to the teacher attitude questionnaires. Eighty percent of the non-PIP staff and 87% of the PIP staff indicated improved attendance among the eighth graders. Sixty percent of the non-PIP staff noted improvement in attitudes toward learning, and 80% noted improvement in student self-esteem. Sixty percent noted improvement in willingness to take responsibility, a judgment verified by student responses to the IAR.

Teacher/Administrator Attitudes

When school staffs are expected to replicate an instructional program that was developed for other students in other localities (as were the PIP project staffs), their attitudes toward the program are of primary importance to the success or failure of the adopted program, both in its initial installation and in the continued use of the new methods and materials after special incentives are withdrawn. For this reason, last year's instructional staff questionnaires emphasized items that would reveal the attitudes of both project and nonproject staffs toward their PIP project's instructional philosophy, methods, and materials and its appropriateness to their own students and school. By their responses to these items, both project and nonproject staff showed that they had highly favorable reactions to the projects in the first year of implementation. As a result of the PIP program, most project staff saw increased motivation to learn and improvement in academic skills among their students, as well as improvements in their own instructional and managerial skills. All was not perfect, however. Project staff reported a need for more and better training in the new instructional materials and methods and a need for increased parent involvement. Nonproject staff complained about inadequate orientation to the new program, lack of communication between project and nonproject staffs, and schedule disruptions.

Unless project staff became comfortable with the new techniques and materials, it seemed likely that they would not want to carry on the PIP instructional programs after removal of the replication constraints placed upon them by the field study. Moreover, unless the nonproject staff understood the program and felt accepted as consulting members of a team working with project staff to help individual students, they probably could not be counted on to support the PIP project as a continuing instructional program in their schools.

Hence, the second-year evaluation effort included questionnaire items for both project and nonproject instructional staffs; these items ascertained staff assessment of specific areas of the instructional program and the effects of the program on themselves and their students. Other questions were designed to determine project staff's attitudes toward the continued use of PIP methods and materials. In addition, the attitudes of district administrative staff toward the PIP instructional programs were obtained because their acceptance of the program has implications for project continuation. The responses of 174 project and 334 nonproject instructional staff, and 98 district administrative staff respondents to these questionnaire items are discussed below.

Acceptability of the Projects

The principal question regarding acceptability of the instructional program required all respondents (project and nonproject instructional staff and district administrative personnel) to rate various components as very appealing, somewhat appealing, not at all appealing, or not part of this program. With relatively few exceptions, all types of respondents were well pleased with their instructional programs. For those areas of the instructional programs that are common to all PIPs (i.e., individual instruction, positive reinforcement, classroom environment, instructional materials, motivating techniques, and diagnostic-prescriptive procedures), the responses were especially favorable. Almost all ratings were divided between "very appealing" and "somewhat appealing." Together these ratings made up 91% of the responses from both project and nonproject instructional staff and 93% of the responses from district administrative staff.

Nonproject and project instructional staff ratings of the common features of the programs were strikingly similar overall, as shown in Table A-14. Since nonproject staff do not directly participate in the program and in many cases do not even teach in the same building as project staff, the similarity in responses suggests considerable communication or shared biases between the two staffs.

Although every PIP program has a parent involvement component, the emphasis given it in the PIP varies from program to program, and the

Table A-14

STAFF ASSESSMENT OF COMMON PROGRAM FEATURES
(Percent Responses)

Extent of Appeal	Project Staff	Nonproject Staff
Very appealing	62%	63%
Somewhat appealing	29	28
Not at all appealing	3	3
Not part of this program	2	3
No response/no basis for answer	3	3

responses to its appeal reflect that emphasis. There were far more "not part of this program" responses to this feature than to any other feature of the programs. R-3 instructional staff were most positive about parent involvement (75% rated it as very or somewhat appealing), and the PIP describes it as an essential part of the program. Eighty percent of the IRIT staff responded that parent involvement was not part of their program, but so little emphasis is placed on it in the PIP that the misconception is understandable. (Only two parent involvement activities are recommended in the IRIT PIP: an open house and a graduation ceremony for outgoing students.)

Another aspect of program acceptability is the extent to which the PIP instructional staff would use or modify the recommended materials and methods if they were given a choice. To a questionnaire item that inquired how much of the PIP instructional materials they would like to use in future teaching assignments, 38% of the project staff replied that they would use all of them and 54% replied that they would use some of them. Only 1 of the 174 project respondents indicated a desire to use none of the PIP materials. Over 7% of the respondents gave "no basis for answer" as a reply to this question. To a similarly worded question about teaching techniques, 34% of project instructional staff replied that they would like to use all of them and 53% said they would use some. Again, only one respondent replied "none"; 12% said "no basis for answer."

A second pair of questions asked project staff about the extent of changes they would make in the instructional materials and methods if they had a choice. While 25% of the project staff said they would not change the recommended materials, 51% said they would make some changes and 22% said they would make many changes or would use more diverse materials. The counterpart question regarding teaching techniques brought forth similar replies; while 36% would not change the PIP techniques, 53% would make some changes and 9% would make many changes. Two respondents said they would not use the PIP-recommended materials and methods.

These responses are very similar to the responses project staff made in the first year of implementation to questionnaire items about instructional materials and methods. As in the first year, the interest expressed by project staff in making some modifications to materials and teaching techniques reflects a desire to make the programs more effective. In interviews, teachers suggested that some of the PIP materials were inappropriate for the ability level of their students or that they did not address the particular needs of their students. R-3 teachers frequently expressed a need for sufficient time to modify and adapt the gaming/simulation materials, which were in many cases too difficult for their students.

Mean scores of project staff on five questions relating to project acceptability are displayed, by PIP, in Table A-15. Scores on each question could range from 1 to 3 or 4, with 1 being the most positive. To facilitate across-PIP comparisons, the mean scores on each question have been rank-ordered. In addition, the overall mean and the overall rank for each PIP are displayed in the last column.

The mean scores on Table A-15 suggest that PTR project staff viewed their program the most favorably, followed by Catch-Up project staff. Least acceptance was revealed by R-3 staff. Interestingly, the overall rank order by PIP is exactly the same as it was in the first year on variables related to project acceptability. At least in relation to each other, attitudes of PIP staffs have not changed in the second year of project implementation, despite greater familiarity with (and, in the case of R-3, better understanding of) the program requirements.

Nonproject staff acceptance of the project was judged on the basis of their responses to four questions in addition to the question that related to the appeal of program features. Two of these questions were addressed to their interest in the project. Over 91% were very or somewhat interested in knowing more about the project, and 48% were interested in implementing parts of the PIP program in their own classrooms. Two additional questionnaire items sought to determine whether the PIP program created problems for or feelings of unfairness in nonproject instructional staff. If the PIP programs cause extra work for nonproject staff or create resentment toward project teachers, the chances for project survival will be slim, no matter how appealing the instructional features might be. A well-implemented instructional program depends on

Table A-15

PROJECT ACCEPTABILITY: PIP INSTRUCTIONAL STAFF

Project	Appeal of Common Instructional Features Range: 1 (pos.) to 3 (neg.)		Continue Materials Range: 1 (pos.) to 3 (neg.)		Change Materials Range: 1 (pos.) to 4 (neg.)		Continue Methods Range: 1 (pos.) to 3 (neg.)		Change Methods Range: 1 (pos.) to 4 (neg.)		Overall Acceptability	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Catch-Up	1.2161	2	2.0000	2	1.6667	4	1.5926	3	1.7037	2	1.6358	2
Conquest	1.4956	5	2.6316	6	2.2632	5	1.9737	6	2.2368	4	2.1202	5
HIT	1.2963	3	2.5000	4	1.6111	3	1.5556	1	2.5000	5	1.8926	4
IRIT	1.2000	1	2.5000	4	1.3000	2	1.7000	4	1.5000	1	1.6400	3
PTR	1.3930	4	1.8400	1	1.2400	1	1.5600	2	1.8000	3	1.5666	1
R-3	1.6101	6	2.2857	3	2.5357	6	1.7857	5	3.2321	6	2.2899	6

the sharing between project and nonproject staff of information about students' learning problems and the exchange of ideas about techniques and materials that might help students overcome their problems.

The responses of nonproject staff to the question of possible problems arising from the PIP program are shown in Table A-16.

Table A-16

NONPROJECT STAFF ASSESSMENT OF PIP-RELATED PROBLEMS
(Percent Responses)

Problem Areas	No Problem	Slight Problem	Serious Problem
Removing students for testing	67%	26%	2%
Removing students for instruction, trips	77	15	2
Inappropriate materials	90	1	1
Schedule changes	74	19	2
More planning necessary	80	13	0
More school duty (e.g., lunch, playground)	85	6	0
Assignment of grades	61	26	6

Taking students from class for testing will probably be less of a problem to nonproject staff in future, because the large-scale pretesting and posttesting of the field test evaluation are completed. Assignment of grades to project students, who are not in their regular classrooms when a specific subject is being taught, will probably remain a problem to nonproject staff.

The PIP instructional staff have instructional aides, smaller classes, and more planning and preparation time than do nonproject teachers; still, at least two-thirds of the nonproject respondents indicated that they did not consider these advantages unfair. This response suggests that nonproject teachers understand the PIP instructional program and recognize that the advantages for PIP staff are necessary if they are to individualize instruction. Nonproject teachers at PTR sites were least aware of inequities in these areas (only 7% saw unfairness), while R-3 non-PIP teachers were most aware. (Twenty-nine percent indicated that the advantages to PIP teachers were unfair.)

Mean scores of nonproject staff on the five questions relating to project acceptability are displayed, by PIP, in Table A-17, with rank orders for each question and overall mean and rank also displayed. IRIT non-PIP staff indicated the highest degree of acceptance of the project, with R-3 and HIT following closely. Least acceptance was revealed by Conquest nonproject staff. Interview data show that the nonproject staff in IRIT sites generally consider the project staff to be cooperative and helpful in trying to meet students' needs, whereas in one of the Conquest sites the school principals allowed the projects to operate independently, which resulted in fewer nonproject staff taking an interest in the program.

Effects on Students

Teachers' attitudes toward an instructional program are usually reflective of how they perceive its effects on their students. In our interviews with both project and nonproject staff, we learned that they held generally favorable attitudes toward the PIP programs and could give examples of positive effects on their students. Comments such as "There are noticeably fewer absences among project students than among other students" and "The project students are more independent learners than students at the same level in previous years" were not unusual. We expected, therefore, that responses to questionnaire items relating to effects on students would be favorable. They were.

Both project and nonproject instructional staff were asked how effective they thought the PIP project had been in terms of helping students. Understandably, the PIP instructional staff respondents were more positive about the effectiveness of the project; however, the nonproject staff respondents were clearly positive as well. The responses for both staff are displayed in Table A-18. These responses, especially among nonproject staff, suggest a highly positive attitude toward the projects.

Another question required both staffs to determine changes that had occurred in the PIP students. Their responses required a choice among four answers: greatly improved, somewhat improved, no change, and worsened. Because most of the PIP programs do not include a math component, the response rate was low; the volume of nonresponse to this item was about 45%. Responses for both staffs are shown in Table A-19.

The project staff responses by PIP revealed that PTR staff saw more improvement in students than any other PIP staff; once again, R-3 PIP staff saw least improvement. Nonproject staff responses, though less positive on the whole, reflected the same perception of change in students: PTR nonproject staff were most favorably impressed and R-3 least.

Table A-17

PROJECT ACCEPTABILITY: NON-PIP INSTRUCTIONAL STAFF

Project	Appeal of Common Instructional Features Range: 1 (pos.) to 3 (neg.)		Expressed Interest in Project Range: 1 (pos.) to 5 (neg.)		Interest in Implementing Project Range: 1 (pos.) to 2 (neg.)		Perceived Problems Range: 1 (pos.) to 2 (neg.)		Perceived Unfairness Range: 1 (neg.) to 2 (pos.)*		Overall Acceptability	
	Mean	Rank	Mean	Rank	Mean†	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Catch-Up	1.2449	1	1.6939	6	4.4490	6	1.2332	5	1.6939	5	2.0630	4
Conquest	1.5811	4	1.6892	5	4.4324	5	1.3272	6	1.7686	3	2.1597	6
HIT	1.6364	5	1.6667	4	3.2121	1	1.1255	3	1.8182	2	1.8918	3
IRIT	1.4103	3	1.3077	1	3.5641	2	1.0916	2	1.7372	4	1.8222	1
PTR	1.9565	6	1.3696	2	4.1087	4	1.0745	1	1.9837	1	2.0986	5
R-3	1.3158	2	1.4737	3	3.7368	3	1.1579	4	1.5789	6	1.8526	2

*Questionnaire items are not always scaled in the same direction. For this question, a mean score of 1 is negative. (The rank of 1, however, always indicates the most positive score and 6 indicates the least positive score.)

†These means reflect large percentages of "no basis for answer" responses.

Table A-18

STAFF ASSESSMENT OF PROJECT'S EFFECTIVENESS WITH STUDENTS

(Percent Responses)

Degree of Project Effectiveness	Project Staff	Nonproject Staff
Very effective	62%	40%
Somewhat effective	26	39
Undecided	9	13
Not very effective	2	6
Not effective at all	0	2

Table A-19

STAFF PERCEPTION OF CHANGES IN PIP STUDENTS

(Percent Responses)

	Greatly and Somewhat Improved		No Change		Worsened	
Area of Change	PIP Staff	Non-PIP Staff	PIP Staff	Non-PIP Staff	PIP Staff	Non-PIP Staff
Reading	85%	80%	3%	7%	0	0
Math	48	32	3	24	0	1%
Vocabulary	82	73	6	11	0	0
Taking responsibility	78	53	10	27	4%	2
Independence	78	58	12	23	5	0
Self-esteem	81	66	10	17	1	0
Attitude toward learning	85	65	10	20	2	0

From 83% to 100% of project staff and from 68% to 88% of nonproject staff, across PIPs, attributed all or some of the changes noted in students to the PIP program. Of course, without checking every questionnaire, one cannot know whether changes assessed as "worsened" are ascribed to the PIP, but, since those responses were relatively few, the high percent of changes attributed to the PIP program is still impressive, especially for nonproject staff.

Effect of Project Participation on PIP Staff

Inasmuch as many of the project staff had reported improvements in professional expertise during our on-site interviews with them, a questionnaire item was directed to the effects of their participation. This question relates both to project acceptability and to program survival. If project staff view their participation as beneficial professionally, the chances are good that some of the PIP instructional techniques will survive and be continued even when the project itself is not refunded. The responses were highly favorable. From 83% to 96% of the project staff respondents either strongly or somewhat agreed that their teaching and management techniques had improved as a result of their participation in the PIP program, while only 2% to 6% disagreed (see Table A-20). Responses of "not applicable" ranged from 2% to 12%. Respondents from Catch-Up and IRIT programs were almost unanimous in agreeing with every statement; nearly half of those who disagreed were from R-3 projects.

Summary of Findings

Second-year questionnaire data indicate that the PIP projects are still highly regarded by both project and nonproject instructional staff and by district administrative personnel. All respondent groups revealed positive attitudes about the instructional features of the programs; most project and nonproject staff saw student improvement in reading and vocabulary; over half of the nonproject staff and well over half of the project staff reported increased student independence, self-esteem, and willingness to take responsibility, as well as improved attitudes toward learning. Although these changes might be expected over the normal course of the year in any case, both staffs attributed most of such changes to the PIP program.

Project staff reported a greater awareness of students' needs and an increase in their own effectiveness as instructors as a result of their participation. Nonproject staff saw little unfairness in PIP teachers' schedules, and few reported any serious problems or disruptions.

Table A-20

EFFECTS OF PROJECT PARTICIPATION ON PIP STAFF

(Percent Responses)

Participation in PIP Project	Strongly or Somewhat Agree	Strongly or Somewhat Disagree
Made me a more effective instructor	95%	2%
Made me more aware of students' needs	96	2
Improved my classroom management skills	83	6
Exposed me to more effective teaching methods	90	4
Improved my ability to supervise people	83	5

The questionnaire results suggest that parts of the programs will survive even in those sites that are not funded for continuation. Most project staff reported a desire to continue using some or all of the instructional materials and techniques in future assignments, and nearly half of the nonproject staff reported that they are already using or would like to use parts of the programs in their classrooms.

Appendix B

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE

PIP

FOR OFFICIAL USE ONLY:

LAST NAME FIRST MIDDLE INITIAL

TESTER TESTER CODE

BIRTH DATE (MONTH,DAY,YEAR) SEX

SCHOOL NAME OR NUMBER

TEACHER GRADE

SCHOOL DISTRICT STATE

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE

Student's Work Copy

FOR USE WITH THIRD THROUGH FIFTH GRADES

SRI

Office of Management and
Budget Number 51-S75004
Approval Expires June 30, 1976

Adapted from the Intellectual Achievement Questionnaire, by Virginia C. Crandall,
Walter Katkovsky, and Vaughn J. Crandall.

SRI Adaptation of the INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE

1. When you do well on a test at school, is it more likely to be

    a________because you studied for it, or

    b________because the test was especially easy?

2. When you have trouble understanding something in school, is it usually

    a________because the teacher did not explain it clearly, or

    b________because you did not listen carefully?

3. When you read a story and can not remember much of it, is it usually

    a________because the story was not well written, or

    b________because you were not interested in the story?

4. Suppose your parents say you are doing well in school. Is this likely to happen

    a________because your school work is good, or

    b________because they are in a good mood?

5. Suppose you did better than usual in a subject at school. Would it probably happen

    a________because you tried harder, or

    b________because someone helped you?

6. If you solve a puzzle quickly, is it

    a________because it was not a very hard puzzle, or

    b________because you worked on it carefully?

7. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen

a________because you did not work hard enough, or

b________because you needed some help, and other people did not give it to you?

8. When you learn something quickly in school, is it usually

a________because you paid close attention, or

b________because the teacher explained it well?

9. When you find it hard to work arithmetic or math problems at school, is it

a________because you did not study well enough before you tried them, or

b________because the teacher gave problems that were too hard?

10. When you forget something you heard in class, is it

a________because the teacher did not explain it very well, or

b________because you did not try very hard to remember?

11. When you read a story and remember most of it, is it usually

a________because you were interested in the story, or

b________because the story was well written?

12. If your parents tell you you are acting silly and not thinking clearly, is it more likely to be

a________because of something you did, or

b________because they happen to be feeling cranky?

13. When you do not do well on a test at school, is it

a________because the test was especially hard, or

b________because you did not study for it?

14. If people think you are smart, is it

a________because they happen to like you, or

b________because you usually act that way?

15. Suppose you do not do as well as usual in a subject at school. Would this probably happen

a________because you were not as careful as usual, or

b________because somebody bothered you and kept you from working?

16. If a boy or girl tells you that you are smart, is it usually

a________because you thought up a good idea, or

b________because they like you?

17. Suppose your parents say you are not doing well in your school work. Is this likely to happen more

a________because your work is not very good, or

b________because they are feeling cranky?

18. When you find it easy to work arithmetic or math problems at school, is it usually

a________because the teacher gave you especially easy problems, or

b________because you studied your book well before you tried them?

19. When you remember something you heard in class, is it usually

a________because you tried hard to remember, or

b________because the teacher explained it well?

20. If a teacher says to you, "Try to do better," would it be

a________because this is something she might say to get everybody to try harder, or

b________because your work was not as good as usual?

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Appendix C

PIP INSTRUCTIONAL STAFF QUESTIONNAIRE: NUMBER OF QUESTIONNAIRE RESPONSES

Appendix C

PIP INSTRUCTIONAL STAFF QUESTIONNAIRE: NUMBER OF QUESTIONNAIRE RESPONSES

The numbers of respondents for each type of SRI teacher/administrator attitudes questionnaire were as follows:

PIP instructional staff	174
Non-PIP instructional staff	334
Administrative staff	98

Table C-1 shows the number and percent of PIP and non-PIP instructional staff respondents, by project.

The PIP Instructional Staff Questionnaire is included in this appendix. In the interest of controlling the volume of the appendix, we decided not to include copies of the Non-PIP Instructional Staff Questionnaire and the District Administrative Staff Questionnaire. The former is very similar to that for PIP staff and the latter is concerned primarily with questions related to project continuation efforts.

Table C-1

NUMBER OF QUESTIONNAIRE RESPONDENTS: INSTRUCTIONAL STAFF

Project	Non-PIP Instructional Staff		PIP Instructional Staff	
	Number	Percent of Total	Number	Percent of Total
Catch-Up				
Bloomington	15		11	
Brookport	7		4	
Galax	17		4	
Providence Forge	6		4	
Wayne City	4		4	
Total Catch-Up	49	14.6%	27	15.5%
Conquest				
Benton Harbor	28		7	
Cleveland	41		16	
Gloversville	79		15	
Total Conquest	148	44.3%	38	21.8%
HIT				
Lexington	15		9	
Olean	18		9	
Total HIT	33	9.9%	18	10.3%
IRIT				
Bloomington	9		8	
Oklahoma City	13		4	
Schenectady	17		3	
Total IRIT	39	11.7%	10	5.8%
PTR				
Canton	9		14	
Dallas	37		11	
Total PTR	46	13.8%	25	14.4%
R-3				
Charlotte	7		15	
Lake Village	4		6	
Lorain	3		19	
Schenectady	5		16	
Total R-3	19	5.7%	56	32.2%

REFERENCES

Berman, P., and M. W. McLaughlin, "Federal Programs Supporting Educational Change," Vol. 1, The Rand Corporation, Santa Monica, California (1974).

__________, "Federal Programs Supporting Educational Change," Vols. 2-5, The Rand Corporation, Santa Monica, California (1975).

Campeau, P. L., "Packaging as a Strategy for Improving the Process of Diffusing Educational Projects," Paper presented at the annual meeting of the American Educational Research Association, New York City, April 4-8 (1977), American Institutes for Research, Palo Alto, California.

Emrick, J. A., "Evaluation of the National Diffusion Network," Draft Final Report, Stanford Research Institute, Menlo Park, California (1977).

Foat, C. M., "Selecting Exemplary Compensatory Education Projects for Dissemination Via Project Information Packages," Technical Report UR-242, RMC Research Corporation, Mountain View, California (1974).

Horst, D. P., A. M. Piestrup, C. M. Foat, and J. L. Binkley, "Evaluation of the Field Test of Project Information Packages: Volume II Recommendations for Revisions," RMC Research Corporation, Mountain View, California (1975).

Hall, G. E., R. C. Wallace, Jr., and W. F. Dossett, "A Developmental Conceptualization of the Adoption Process Within Educational Institutions," Research and Development Center For Teacher Education, University of Texas at Austin (1973).

Horst, D. P., G. Tallmadge, and C. Wood, "A Practical Guide to Measuring Project Impact on Student Achievement," U.S. Department of Health, Education and Welfare, Office of Education, Washington, D.C. (1975).

Kaskowitz, D. H., and C. R. Norwood, "A Study of the Norm-Referenced Procedure for Evaluating Project Effectiveness as Applied in the Evaluation of Project Information Packages," Stanford Research Institute, Menlo Park, California (1977).

Norwood, C. H., "Evaluation of the Field Test of Project Information Packages: Volume II Technical Report," Stanford Research Institute, Menlo Park, California (1977).

Piestrup, A. M., "Design Considerations for Packaging Effective Approaches in Compensatory Education," Technical Report UR-241, RMC Research Corporation, Mountain View, California (1974).

RFP 74-40, "Evaluation of the Field Test of Project Information Packages," U.S. Department of Health, Education and Welfare, Office of Education, Washington, D.C. (March 1974).

RMC Research Corporation, "Project Information Packages Overview," RMC, Mountain View, California (1976).

Stearns, M. S., "Evaluation of the Field Test of Project Information Packages: Volume I-Viability of Packaging," Stanford Research Institute, Menlo Park, California (1975).

Tallmadge, G. K., "The Development of Project Information Packages for Effective Approaches in Compensatory Education," Technical Report UR-254, RMC Research Corporation, Mountain View, California (1974).